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ABSTRACT

This study assessed the strengths, weaknesses, and degree of implementation of the Manitoba (Canada) Physical Education curriculum in grades 4, 8, and 11. This report presents the conclusions and recommendations resulting from a review and interpretation of the findings by the Physical Education Educators on the grade level Technical Advisory Committees. At each grade level, the assessment consisted of a student performance test, a student written test, and a teacher survey. The six major learning goals at each grade level were consistent even though the specific objectives varied from one grade level to another; the fitness portion of the performance test was consistent across the three grade levels as well. In general, results were positive and indicated that the curriculum was well covered, with males showing higher fitness than females, except in flexibility. At Grades 4 and 8, a sizeable proportion of students did not receive the recommended minimum of time for physical education classes; at all three grade levels, there was a de-emphasis in Rhythm and Dance, Aquatics, and Gymnastics. In reporting to parents, evaluation concentrated on behavior, participation, and effort; skills, fitness, and knowledge of concepts received little attention. The level of teacher qualification correlated with teaching assignment; the least qualified teachers were found at Grade 11. Appendices include the detailed procedures of the Physical Education Assessment and a listing of the members of the Technical Advisory Committees. (NAV)

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MANITOBA PHYSICAL EDUCATION ASSESSMENT 1993

FINAL REPORT

English Language Schools

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SP 036 672

MANITOBA PHYSICAL EDUCATION ASSESSMENT 1993

FINAL REPORT

English Language Schools

Grades 4, 8, 11

A REPORT OF THE

ASSESSMENT AND EVALUATION UNIT

MANITOBA EDUCATION AND TRAINING

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PREFACE

The Physical Education Assessment at grades 4, 8 and 11 was conducted in May, 1993 in English language schools, Franco-Manitoban schools and the French Immersion Program. There were three components to the Assessment at each of the three grade levels and client groups: student performance test, student written test and teacher survey. A separate report has been prepared for each client group.

A *Preliminary Report* containing provincial data on the student test results was prepared for each of the three grade levels and client groups following the scoring and analysis of student responses. These preliminary reports, which were distributed to schools and divisions earlier, contained an outline of the test content, a distribution of student responses by item, the means and standard deviations, and a frequency distribution of each cognitive subtest.

This *Final Report* of the 1993 Physical Education Assessment provides a description of all components of the study, plus an interpretation and discussion of the results. It also presents the conclusions and recommendations resulting from a review and interpretation of the findings by the Physical Education educators on the grade level Technical Advisory Committees. This *Final Report* will be distributed to schools, school division offices, teacher and trustee organizations, libraries and universities. Additional copies of this *Final Report* may be obtained from Manitoba Education and Training on request.

ACKNOWLEDGEMENTS

This assessment could not have been conducted without the invaluable assistance and cooperation of people too numerous to mention. However, thanks are extended to the students who participated in the performance and written tests, teachers and testers who administered the tests, the individuals who participated in the pilot testing of the instruments, and the teachers and advisors who assisted in the review of the objectives that were utilized in the assessment.

The following individuals and groups deserve particular thanks:

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>
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EXECUTIVE SUMMARY

In the spring of 1993, Manitoba Education and Training conducted a provincial Physical Education Assessment to assess the strengths, weaknesses and degree of implementation of the physical education curriculum in grades 4, 8, and 11. Students participating in this were drawn from three client groups: English language schools, Franco-Manitoban schools and the French Immersion Program. At each grade level the assessment consisted of a student performance test, a student written test and a teacher survey. The six major learning goals at each grade level were consistent even though the specific objectives varied from one grade level to another. The fitness portion of the performance test was consistent across the three grade levels as well. The following tables indicate students' performance in the fitness subtests and the mean cognitive scores achieved by students in the major goal areas assessed.

FITNESS PERFORMANCE BASED ON THE *MANITOBA SCHOOLS FITNESS CRITERIA* (1989) AT GRADES 4, 8, 11

FITNESS SUBTEST	**STUDENT PERFORMANCE** **- Criteria and % Pass***					
	Grade 4		**Grade 8**		**Grade 11**	
	M	**F**	**M**	**F**	**M**	**F**
1600m Run	≤10 mins. 63.6%	≤10 mins. 42.9%	≤8:30 mins 57.7%	≤9:45 mins. 49.6%	≤8:00 mins. 79.6%	≤9:30 mins. 38.9%
Push-ups	≥12 38.5%	≥12 26.7%	≥20 62.2%	≥15 17.4%	≥20 63.3%	≥15 16.7%
Sit and Reach	≥30cm 29.6%	≥30cm 43.3%	≥30cm 37.8%	≥30cm 73.0%	≥30cm 67.3%	≥30cm 63.9%
Sit-ups **(Curl-ups)**	≥33 34.7%	≥33 21.4%	≥40 36.9%	≥36 13.9%	≥43 46.9%	≥37 27.7%

***Based on the** *Manitoba Schools Fitness Criteria* (1989)

M = Male; **F** = Female;

MEAN COGNITIVE SCORES BY PHYSICAL EDUCATION LEARNING GOALS AT GRADES 4, 8 AND 11

LEARNING GOALS	SUBTEST MEAN PERCENTAGE SCORES								
	Grade 4			Grade 8			Grade 11		
	M	F	T	M	F	T	M	F	T
Develop physical well-being	82.19	82.26	82.14	83.22	85.08	84.18	68.68	70.64	69.53
Develop desired movement patterns through the neuromuscular system	77.89	81.98	80.14	81.35	80.90	81.10	75.46	72.74	74.16
Develop an independence in pursuing physical activity throughout life	92.23	93.93	92.99	75.44	75.54	75.48	71.75	76.37	73.92
Develop safety and survival practices	89.98	90.55	90.23	78.58	82.70	80.54	47.09	47.85	47.46
Develop positive social interactions through a variety of physical activities	94.65	95.32	94.99	87.11	91.69	89.35	N/A	N/A	N/A

M = Male; F = Female; T = Total population.

OVERALL RESULTS AND GENERAL CONCLUSIONS

1. At all levels tested, the results were generally positive and indicated that the curriculum was well covered.

2. Generally, males showed higher fitness levels than females except in flexibility (Sit and Reach) where the females performed better. Both males and females demonstrated weakness in curl-ups when compared to the *Manitoba Schools Fitness Criteria* (1989).

3. At Grades 4 and 8, a sizeable proportion of students does not receive the recommended minimum of time for Physical Education classes.

4. At all three grade levels tested there is de-emphasis of certain areas of curriculum, most notably Rhythm and Dance, Aquatics and Gymnastics.

5. In reporting to parents, the areas most concentrated on at all three grade levels tested are behavior, participation, and effort.

6. The level of teacher qualification appears to correlate with teaching assignment. The largest proportion of Physical Education teachers qualified to teach in the specialty are at the Grade 11 level; the next largest proportion teach at Grade 8; the highest proportion of teachers unqualified in Physical Education teach at the Grade 4 level.

RESULTS AND CONCLUSIONS FOR SPECIFIC GRADE LEVELS

Grade 4

1. Student responses showed favourable attitudes towards Physical Education classes and showed generally good understanding of the importance of physical activity and fitness in the maintenance of a healthy lifestyle. Students in general were less successful in muscular and cardiovascular endurance and flexibility activities than they were in the performance of basic movement skills.

2. Using the *Manitoba Schools Fitness Criteria* (1989), a sizeable proportion of students are at a level of fitness which could lead to health risk in later life.

3. Some gender differences were noted in student choice of activity. For example, females showed a greater appreciation than males for activities demonstrating smooth and graceful movements, whereas males have a greater appreciation than females for activities using skill and competition and which involve a lot of running.

4. Students indicated that they have the opportunity to be creative, but that these opportunities tend to occur much more frequently outside of Physical Education class, namely at recess and at home.

5. Less than one-tenth of the students at Grade 4 level receive the recommended minimum (equivalent to 30 minutes per day) of Physical Education class time.

6. Approximately one-fifth of the Physical Education teachers at Grade 4 level have no formal training. An additional one-fifth have fewer than the required courses for a degree in Physical Education.

7. Three-quarters of the Physical Education teachers reported the annual conference, SAG, as a major source of professional development (PD) while Divisional Inservices on Physical Education topics seem to have provided a fairly significant source of PD for Physical Education teachers at the Grade 4 level. Although teachers have had inservicing in a variety of areas, there continues to be a need for workshops on certain topics (e.g., Physical Fitness, Quality Daily Physical Education (QDPE), and Student Evaluation).

8. The curriculum areas most de-emphasized are Rhythm and Dance, and Gymnastics. Reasons most often cited for de-emphasis were lack of training, lack of equipment and programming problems.

9. In reporting to parents, the areas most concentrated on by Physical Education teachers are behavior, participation and effort. Skills, fitness and knowledge of concepts receive little attention in evaluation.

10. Nearly one-third of the Physical Education teachers at Grade 4 level teach students with disabilities, but few have the appropriate educational background for this assignment, and few participate in the development of Individualized Education Plans (IEP's) on a regular basis.

Grade 8

1. One half of the test population met the criterion levels for Manitoba Fitness in the area of cardiovascular endurance; fitness levels were generally lower than the *Manitoba Schools Fitness Criteria* (1989); males were generally competent in the neuromuscular skills areas, although kicking was a generally weak area overall; females show a definite lack in neuromuscular skill development, especially manipulative skills.

2. In the cognitive areas, males and females demonstrated equal performance; overall, they showed good mastery of physical education concepts, particularly in the area of nutrition, weight management, and the inter-relationships among exercise, body mass and weight control.

3. In the affective areas, some noticeable gender-specific differences are apparent in self-expression activities and in respect for rules of fair play. Students at this level have a good understanding for, and acceptance of, fair play practices. Females showed greater adherence to the rules of a sport than males and showed a greater tendency to engage in fair play practices.

4. The majority of students become involved in physical activity for fun, self-improvement and/or skill development; both males and females showed good knowledge of sports facilities in their community, with males showing greater tendency than females to become involved in community sports activities.

5. Although teachers claimed that students are given wide choice of activities in Physical Education class, students reported that they are given little choice.

6. Co-operative sports and activities are emphasized to a greater extent than competitive sports and activities in physical education interaction.

7. Approximately one-third of Physical Education teachers at the Grade 8 level have inadequate training for their assignments; a fair number of teachers have classroom responsibilities other than Physical Education.

8. Aquatics is one of the curriculum areas most de-emphasized due to the lack of facilities; gymnastics is another due to lack of appropriate training; and rhythm and dance is de-emphasized due to lack of training and program considerations.

9. Only about one-third of the schools represented in the survey offer the recommended amount of time for Physical Education with about 14% offering less than half the recommended time.

10. Among the teachers who teach Physical Education to students with disabilities, a little over one-quarter of them are not involved in the development of IEP's.

11. Teacher observation is the most widely practised method of assessing student progress in Physical Education; behavior, participation and effort are the most emphasized areas in reporting to parents; skills, fitness and knowledge of concepts receive little emphasis in the overall evaluation of student progress.

Grade 11

1. Teachers indicated that they are spending a fair amount of time on fitness, and students reported that they are involved to a considerable extent in physical activity outside of school. However, student fitness levels do not reflect such intense involvement. Based on *Manitoba Schools Fitness Criteria* (1989), males showed generally acceptable performance in fitness, but females did not. The one notably weak area for males is abdominal muscular endurance and the notably strong area for females is in lower back and hamstring flexibility.

2. Students demonstrated reasonable knowledge of various components of fitness and an understanding of the application of theories, activity, nutrition and weight management. Students showed good understanding of the principles of motor learning and skill progressions.

3. Weakness was shown in the area of fitness chart reading, interpretation and application of the results. Students reported that they are not given much opportunity to use test results to plan their own fitness programs.

4. Some areas of the curriculum have not received the recommended emphasis (eg. Aquatics, Rhythm and Dance). The most frequently stated reasons are lack of facilities and lack of training.

5. The greatest emphasis in the area of student assessment appears to be on behavior, participation and attitude.

6. Teachers use various opportunities for upgrading or inservicing, but SAG appears to be the primary source. There could be a loss of approximately 90% of the opportunities if SAG is discontinued. Teachers have received inservicing in a variety of areas, but additional inservicing is required, specifically in QDPE, adaptation for special needs/disabled students, innovative teaching strategies, student leadership and student evaluation.

7. A high proportion of Physical Education teachers at the Grade 11 level appears to have the necessary qualifications to teach Physical Education at the Senior 2 level; three-quarters of the teachers who teach Physical Education appear to have the professional credentials for teaching in their subject areas.

RECOMMENDATIONS

The following recommendations are common to all three grade levels. Other specific grade level recommendations are found at the end of each grade level report.

Since the role of Manitoba Education and Training, school administrators and Faculties of Education are crucial to program development and implementation, their support is required for the successful implementation of many of the grade specific recommendations and the following ones which are common across grade levels:

- **programs be provided which will encourage students to experience activities and learn skills which, in later years, will assist them in maintaining life-long fitness;**
- **students be encouraged, through their Physical Education program, to participate in activities with high potential for fitness improvement;**
- **the different interests of males and females be reflected in the choice of activities presented in Physical Education instruction;**
- **timetabling considerations be given to provide the recommended daily time allotment for Physical Education;**
- **additional inservicing be provided on the implementation and use of the *Manitoba Schools Fitness Criteria* (1989) support document;**
- **strong consideration be given to the hiring and/or the assigning of qualified physical education teachers to teach Physical Education;**
- **regular maintenance and inspection be continued to ensure safety of facilities and equipment;**
- **ongoing inservicing in the areas of CPR and First Aid procedures be provided with the opportunity for teachers to maintain updated certificates in these areas;**
- **consideration be given to increased preparation in the curriculum areas where teachers have indicated lack of training as a reason for not providing instruction to students; and**
- **full-time Physical Education Consultants be maintained or hired to provide support to teachers in the areas of support materials, workshops, continuity and direction in curriculum and to support teachers requiring specific training and guidance.**

CHAPTER 1

BACKGROUND AND PROCEDURES OF THE ASSESSMENT

Purpose

The Physical Education Assessment Program is part of the overall Manitoba assessment program as recommended by the Curriculum Services Branch and approved by the Minister of Education and Training. The general purpose of the assessment program is to measure the broad goals and objectives of the Manitoba Curriculum, to point out the strengths and weaknesses of the curriculum, and to assist in determining the degree to which the curriculum has been implemented.

The assessment program is not designed to test or make statements about individual student achievement. Rather, it uses student group performance data to measure achievement of objectives. For this reason, not all students need to be included in any given assessment program. Sampling techniques which take into account various identifiable sub-groups within the population ensure that the results of the assessment reflect the province as a whole. Schools and divisions who so desire may choose to test all students at the target grade levels. Division or school group results can then be compared to provincial group results.

Generally, the Assessment Program consists of a written test and a survey of subject teachers. However, performance testing on a limited basis has been included from time to time. Given the nature of the Physical Education program, performance testing was conducted as part of the 1993 assessment.

Procedure

A detailed account of the specific procedures used in the Physical Education Assessment Program has been included in Appendix I, and is similar to those used in other subject assessments. The typical procedures used in curriculum assessment include a review and selection of instructional objectives by qualified and experienced teachers in the field, further review and clarification of instructional objectives by a Technical Advisory Committee (TAC) composed of subject area and assessment consultants, experienced teachers or specialists, and university professors; preparation of appropriate test items based on the selected objectives by a competent contractor or contractual team; and a review of the test items by the Technical Advisory Committee. In order to ascertain the opinions of practitioners, a survey of teachers in the particular subject area is conducted at each grade level being assessed.

Following the administration of tests and the scoring and coding of results, a *Preliminary Report* is prepared containing an outline of the test content, a distribution of student responses by item, the means and standard deviations for all subtests and a frequency distribution of results for each cognitive subtest. This *Preliminary Report* provides provincial results which, in turn, enable schools or school divisions which have opted for the total participation of their students to review their results and compare these to provincial results.

Subsequently, a study of the test and teacher survey results is undertaken by the TAC. An attempt is made to interpret the results, draw conclusions and formulate recommendations targeted at Manitoba Education and Training, Schools and School Divisions, Faculties of Education, and Teachers. These are presented in the *Final Report.*

The Assessment Program has attempted, where appropriate, to provide separate testing and reporting for three identifiable client groups in the educational system: English language schools, Franco-Manitoban schools and schools in the French Immersion Program. An attempt is made to establish consistency with the testing, survey of teachers and the reporting of the results for these groups.

Components

The Physical Education Assessment 1993 was conducted at grades 4, 8 and 11. At each grade level, the assessment consisted of a written test, a performance test and a teacher questionnaire. The written test was designed to provide information on student knowledge and understanding of Physical Education concepts and on student attitudes toward Physical Education. The performance test was designed to provide a reading on student fitness levels and on student acquisition of basic skills related to the various physical activities considered essential at the respective grade level. The teacher survey provided information on teacher preparation and background, instructional activities, facilities and organizational arrangements, and on resources and materials.

Time

The Physical Education Assessment was conducted during the period of May 17 to May 28 1993. It was necessary to select an interval during which there would have been the least inconvenience with school and divisional track and field events. It was further felt that most teachers and students would have been concluding their Physical Education programs by that time. The teacher survey was conducted during the same time period. This allowed for follow-up time needed to retrieve the questionnaires and to ensure the highest possible return rate.

CHAPTER 2

GRADE 4 RESULTS OF PHYSICAL EDUCATION ASSESSMENT

The Grade 4 Physical Education Assessment 1993 consisted of a written test, performance test and teacher survey. The performance test was designed to provide information on student fitness and skill levels. The written test provided information on student knowledge and understanding of Physical Education concepts and on student attitudes towards and opinions on Physical Education. The teacher survey was designed to provide information on teacher preparation and background, materials and resources, instructional activities, and facilities and organizational arrangements.

The results have been organized in this Chapter according to the learning goal and content area categories from the 1981 *Manitoba Physical Education Curriculum Guide (K-12).* For the convenience of the reader, the categories are listed below.

Learning Goal	**Content Area**	**Heading in this Report**
1	Develop Physical Well-Being	Fitness
2	Develop Desired Movement Patterns Through the Neuromuscular System	Skills
3	Express Ideas, Thoughts, and Feelings with Confidence Through Physical Activity	Self-Expression
4	Develop an Independence in Pursuing Physical Activity Throughout Life	Independence
5	Develop Safety and Survival Practices	Safety
6	Develop Positive Social Interactions Through a Variety of Physical Activities	Social Interaction

2.1 Performance Test Results

2.1.1 Overview

The performance component was designed to address the curriculum objectives which are psychomotor in nature. A sub-sample of students from the written test sample was randomly selected to participate in this portion of the assessment. Students with medical or physical conditions which would prohibit their participation were excluded.

A total of 203 students (98 males and 105 females) participated in the Grade 4 Physical Education Performance Test. The test consisted of activities that assessed both fitness and skills, and was conducted in two parts – Part A which was administered by the Physical Education teacher in the school, and Part B which was administered by a team of teacher-testers who had been specially trained by staff of Curriculum Services, Manitoba Education and Training to administer the test. Administration of both parts of the test was carried out according to a specified test protocol to ensure inter-rater reliability*, and to ensure that students left the testing situation with a sense of accomplishment. All students were given a 3-4 minute warm-up period before the start of each testing session.

The results of the Fitness subtests (Tables 2.1a and 2.1b on page 5) show the average scores for the test population. In addition, they compare student performance to the desirable level (fitness criteria) as outlined in the *Manitoba Schools Fitness Criteria* (1989) document which supplements the 1981 *Manitoba Physical Education Curriculum Guide (K-12)*.

The results of the Skills subtests show the percentage of students performing at the Mature (developed) or Formative (developing) levels. The determination of the level of performance as Mature (M) or Formative (F) is based on designated criteria for the respective subtests. Student performance was rated Mature only if all criteria for the subtests were satisfied. If one or more of the designated criteria were not met, the student performance was rated Formative. These criteria are included in Table 2.2 on page 8.

The results have been reported by gender since the fitness levels in some areas differ for males and females according to the *Manitoba Schools Fitness Criteria (1989)* curriculum supplement. The ratings on the Skills subtests were based on common criteria for male and female students.

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*Inter-rater reliability refers to the consistency with which the same test or observation is evaluated by a number of different testers.

TABLE 2.1a
FITNESS RESULTS — MALE (Grade 4)

Fitness Subtest	Student Performance					N = 98
	Average	Maximum	Minimum	At or Above Average %	Below Average %	Criteria & % Pass*
1600 m Run	9:59 mins.	15:01 mins.	6:38 mins.	63.6	36.4	≤10:00 63.6%
Push-ups	11	33	1	40.8	59.2	≥12 38.5%
Sit & Reach	26.6 cm	42 cm	7 cm	48.0	52.0	≥30 cm 29.6%
Sit-ups (Curl-ups)	29	46	2	49.0	51.0	≥33 34.7%

*Based on the *Manitoba Schools Fitness Criteria* (1989)

TABLE 2.1b
FITNESS RESULTS — FEMALE (Grade 4)

Fitness Subtest	Student Performance					N = 105
	Average	Maximum	Minimum	At or Above Average %	Below Average %	Criteria & % Pass*
1600 m Run	10:35 mins.	17:20 mins.	6:21 mins.	61.9	38.1	≤10:00 42.9%
Push-ups	10	32	1	32.4	67.6	≥12 26.7%
Sit & Reach	27.4 cm	43 cm	12 cm	53.3	46.7	≥30 43.3%
Sit-ups (Curl-ups)	26	42	5	49.5	50.5	≥33 21.4%

*Based on the *Manitoba Schools Fitness Criteria* (1989)

2.1.2 Fitness

Endurance was assessed on the outdoor 1600 meter run and indicated student completion times ranging from 6:38 minutes to 15:01 minutes for males, with an average time of 9:59 minutes. Average time for females was 10:35 minutes, with a range of 6:21 minutes to 17:20 minutes. Desirable criterion level as established by *Manitoba Schools Fitness Criteria* (1989) was 10:00 minutes. The fitness criteria included in this document were based on data analyzed from a variety of fitness resources including MANFIT, CAPHER PERFORMANCE II, AAHPERD's HEALTH-RELATED FITNESS TEST, PHYSICAL BEST, FIT YOUTH TODAY, and several research articles written on health/fitness. Based on this information, criterion standards were established to indicate the levels of achievement at which health risk factors may be reduced. This criterion was attained or surpassed by 64% of the males and 43% of the females.

Muscular endurance and flexibility were assessed by performance in Curl-ups, Push-ups and Sit and Reach activities. Performance in all three of these activities was somewhat below expected levels for Grade 4. Although both males and females performed at basically the same level overall in the muscular endurance and flexibility tasks, some gender differences were apparent in the performance of specific activities.

The Sit and Reach test was designed to assess the student's hamstring and lower back flexibility and was measured by each student's performance on a sit and reach task. Performance was calculated in centimeters through an apparatus known as a Sit and Reach Apparatus or 'flexometer'. Each student was given two trials, with only the better score being recorded. Males scored somewhat lower than females on this task, with an average reach of 26.58 cm (a range of 7 cm to 42 cm) compared to the females' average of 27.40 cm (a range of 12 cm to 43 cm). Approximately 30% of the males and 43.3% of the females were above the *Manitoba Schools Fitness Criteria* (1989) average for their grade level in flexibility. (See Tables 2.1a & 2.1b on page 5)

Curl-ups and Push-ups were activities in which student performance was measured by the number of repetitions of each task they were able to complete until they could no longer maintain a rhythm. Curl-ups were timed for one minute but Push-ups were untimed. The average number of push-ups for males in this test population was 11, (a range from 1 to 33), and for females, was 10 (a range from 1 to 32). Only 27% of the females and 39% of the males achieved the *Manitoba Schools Fitness Criteria* (1989) 'desirable level' of 12 Push-Ups.

Performance was relatively weak on Curl-Ups (modified Sit-ups). The average number of Curl-Ups for males in this test was 29 per minute, (a range from 2 to 46) and for females, was 26 (a range from 5 to 42). The *Manitoba Schools Fitness Criteria* (1989) 'desirable level' is 33 Curl-ups, which was achieved by 35% of the males and 21% of the females.

2.1.3 Skills

Activities discussed in this section have been categorized into those which assess 'manipulative skills' such as overhand throwing, catching, striking, dribbling and kicking, and those which assess 'transport' or 'locomotor' skills such as jumping, hopping, skipping and walking. The activities which assessed rhythmic ability are dealt with separately in this section, and consist of walking and skipping to music.

Overall, males proved to be significantly more proficient than females in manipulative activities, and not only outperformed them on average, but also outperformed them in every area. The one area in which males showed lower performance than the females was in skipping to music (72.7% to 81.7%). Females showed significant weakness in the 'striking the ball' and the 'overhand throw' activities. Fewer than half of them met the criteria for mature performance in these activities, 46.4% and 42.3% respectively. Manipulative skills were further measured by the performance of dribbling, catching and throwing, as well as in ball trapping and kicking. Females showed reasonable mastery in dribbling a basketball, catching a softball, and trapping a soccer ball even though they did not do as well as their male counterparts. (See Table 2.2 on page 8).

Performance of transport skills was first measured by a ''jumping down'' activity in which students were expected to jump downward from a raised platform, maintaining balance and control, while landing across a line placed 50 cm away from the platform. The second task used to assess transport skill was ''skipping'' in which students were expected to perform an alternate skip/hop pattern around cones while showing limb opposition. The majority of students demonstrated mature performance on these tasks with virtually no difference between male and female performances.

TABLE 2.2

SKILLS TEST RESULTS — MALE AND FEMALE (Grade 4)

^{N} Male = 98; ^{N} Female = 105

Skill Subtest	Criteria	Student Performance			
		Mature(M)		Formative(F)	
		Male	Female	Male	Female
Jumping down	Preparation: • flexed knees, hips, ankles • two-foot take off • bilateral arm action In flight: • flexed joints extend in flight Landing: • two-foot landing • flexion on landing • arms in front • lands on balls of feet	85.9%	88.6%	14.1%	11.4%
Striking ball	• ready position and follow through • transfer weight from back foot to front foot • hip and trunk rotation • eyes focused on object being struck	85.6	46.4	14.4	53.6
Walking to music	• smooth rhythmic walk	77.9	77.7	22.1	22.3
Skipping	• alternate step/hop pattern showing opposition	88.9	91.3	11.1	8.7
Skipping to music	• alternate step/hop pattern showing opposition and rhythm	72.7	81.7	27.3	18.3
Dribbling (basketball)	• pushing arm motion (not slapping) • rhythmical series of controlled bounces • contact initiated from finger pads, with finger and wrist flexion.	89.8	68.6	10.2	31.4
Catching	• arms relaxed and bent and "give" with the ball • hands reach out and catch object with finger placement having thumbs together for a high catch, little fingers together for a low catch • body position adjusted to catch the ball	83.7	71.2	16.3	28.8
Throwing	• opposite foot forward to throwing arm • rotation occurs through hips, legs, spine and shoulder • weight shifts from back foot to forward foot	79.8	42.3	20.2	57.7
Trapping	• controlled wedge on trap	86.9	81.7	13.1	18.3
Kicking	• knee and hip flexion • weight transfer • "stepping" into the ball	76.8	55.8	23.2	44.2

Students performed very well in sub-tests designed to assess rhythm. Females performed somewhat better than males in "skipping to music", where 81.7% of them were in the mature category compared to 72.7% of males.

2.1.4 Summary of Performance Test Results

The data indicated that most Grade 4 students were below desired fitness levels. Even though small proportions of males and females appeared to be physically fit, males did better on tests of cardiovascular endurance and muscular endurance than their females counterparts who outperformed them on flexibility. These results indicated that a sizeable proportion of Grade 4 students are at fitness levels which could lead to health risks in later life.

Transport skills seemed to be well developed by a majority of Grade 4 students as were skills related to rhythm. The majority of males showed mature performance in the manipulative skills whereas females showed significant weakness, notably in the areas of throwing, striking a ball, and kicking. Skill levels were somewhat lower than desired for males in skipping to music and kicking.

2.2 Written Test Results

2.2.1 Cognitive Items

Student knowledge of cognitive areas of Physical Education, and their attitude towards the program was assessed by means of a written test. A total of 1158 students (579 males and 566 females)[1] completed this test.

TABLE 2.3
MEAN SUBTEST SCORES (Grade 4)

Learning Objective	Maximum Score Possible	Mean Raw Score	Mean Percentage	Standard Deviation Raw Score
Fitness	7	5.75	82.14	1.23
Skills	1	0.80	80.14	0.40
Independence	6	5.58	92.99	0.86
Safety	8	7.22	90.23	1.06
Social Interaction	8	7.60	94.99	0.86
TOTAL	**30**	**26.95**	**89.83**	**3.08**

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[1] There were 13 students who failed to indicate gender on their test papers.

2.2.1.1 Fitness

Student responses on the written test indicated that both males and females generally understand the concepts regarding fitness and its maintenance, and the majority (83%) of students responded that the best way to keep physically fit is to do some sort of physical activity every day.

There was some concern about student responses on Item 62 which tested student knowledge of the sport that provided the most effective fitness activity. The expected response was 'soccer' since it provides the maximum amount of sustained running and of stop and go movement of all three sports listed, yet 18% thought the best workout is obtained from softball and 11% reported that they do not know.

62. Which of these activities should make you ***most*** *physically fit?*

*64.9% *A. soccer*
18.0% B. softball
5.8% C. bowling
11.0% D. I don't know.

Almost 75% of the students were aware that curl-ups are the best activity for strengthening abdominal muscles, and 72% of them knew that splits is an exercise used to improve leg flexibility. A very high percentage (91.8%) of the students in the sample correctly selected push-ups as the best activity for developing strong arm muscles, and 94% were aware that running increases the heart rate.

There were some minor gender differences in student knowledge of the role which regular exercise plays in fitness. Seven percent (7%) of the males and 12% of the females indicated that they do not believe that people who exercise regularly will be more fit than people who do not.

Students appeared to be keenly aware that physical activity is important to keeping healthy (98%) and having a strong heart (96%). A number of students, however, disagreed that physical activity will make one feel better about one's self (11.5%). An even higher percentage of students (17.7%) indicated that they do not believe that physical activity will increase muscular endurance.

2.2.1.2 Skills

In order to ascertain whether students understood that the basic movement skills are used in performing all physical activities, students were presented with an item on balance consisting of a series of figure drawings showing various body positions on a beam. They were asked to judge which figure would find it easiest to balance on the beam. Responses indicated that over 80% of the students recognized that balance could be achieved only by distributing the weight across as well as along the beam. Although the responses were quite good, it is not advisable to draw broad conclusions since only one test item related to this area in cognitive tasks.

2.2.1.3 Independence

The students demonstrated solid understanding of the qualities and responsibilities of good leaders. Almost 98% of the students reported that playing fair and being responsible are desirable qualities, and although a fairly high number of students (13.4%) failed to see enthusiasm as a necessary quality for leadership, blaming others for failure in sports and only allowing the best players to play were seen clearly as undesirable leadership characteristics by approximately 96% of the group. Virtually no male/female differences were noted in the data pertaining to this focus.

2.2.1.4 Safety

Issues involving rules for safe play, the need for appropriate attire, and correct use of safety equipment and procedures appeared to be well understood by an average of approximately 90% of the students in the test population.

2.2.1.5 Social Interaction

An average of over 95% of the respondents (almost equal numbers of females and males) agreed that cooperation with coaches and players, and respecting the decisions of officials are examples of fair play. The same proportion were aware that cheating, breaking rules and fighting are not appropriate in a sports context.

2.2.1.6 Summary of Cognitive Test Results

Student respondents at the Grade 4 level showed generally good understanding of the need for physical activity and fitness in the maintenance of a healthy body, although their understanding of the activities which develop various specific parts of the body was somewhat weaker.

Minor gender differences were shown in student knowledge of the effects of exercise and physical activity. Females, for example, indicated less awareness than males that physical activity would likely increase self-confidence. Both males and females showed good understanding of the need for fair play, following rules, and accepting the decision of officials.

Both males and females indicated good understanding of the correlation between ongoing physical activity and fitness. Student knowledge of the various activities which promote and maintain muscular strength and flexibility, and muscular and cardio-vascular endurance appeared to be strong. There was indication of strong awareness that regular exercise and fitness is for everyone and not just for professional athletes and dancers. The respondents showed very good to excellent understanding of the notions of fair play, sharing, tolerance of others, self-confidence and self-control.

2.2.2 Affective Items

2.2.2.1 Fitness

Responses to items which inquired about the students' enjoyment of physical fitness and of the positive feelings associated with engaging in physical activity showed that Physical Education classes are popular and that students do not equate physical fitness with boring activity. Nearly 92% of the group reported enjoying Physical Education, and 85% would like to have more frequent Physical Education classes.

Although 90% of the students reported that they practice at sports to become more skilful, minor gender differences were noted in some specific areas. For example, males and females responded equally positively about playing games but males reported being somewhat more intensely interested than females in learning sports skills. This was seen in the response pattern which showed that over one-third more males than females reported 'a lot' of interest, and only half as many males as females reported 'a little' interest to Item 14 that asked "How much do you like learning sports skills (such as soccer and badminton)?" A similar pattern but in the opposite proportions, showed that females reported being more intensely interested than males in games that promote fitness.

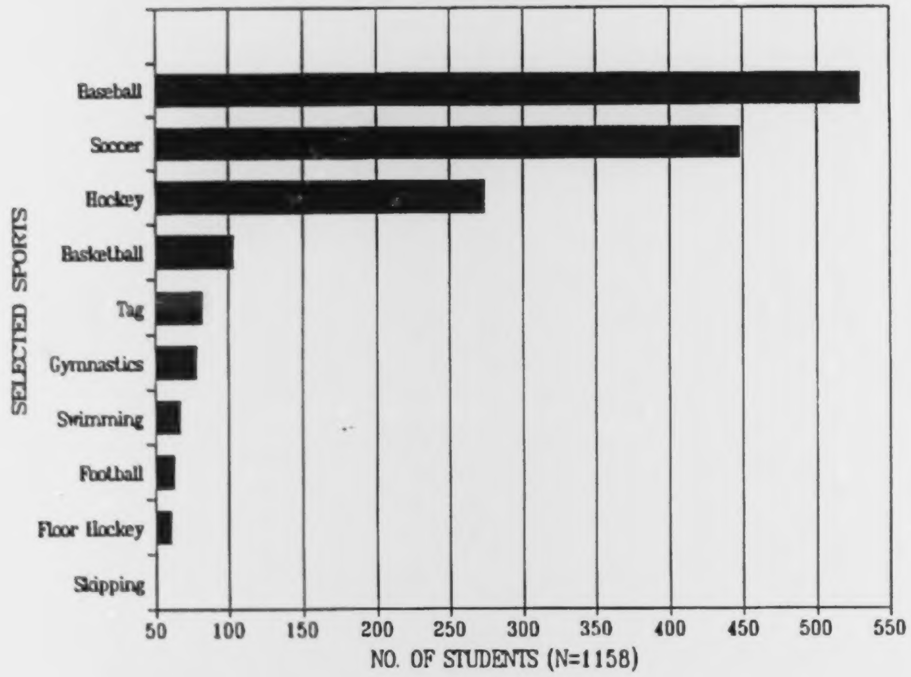
Students' response to a question about how often they would take a walk when feeling angry was intended to indicate their understanding that such an activity is a relief for stress. A total of 18.3% of the students responding to this item reported that they never take a walk to relieve stress. The largest percentage, 49.9%, indicated that they 'sometimes' do so. Only 14.3% of the group reported that they 'always' go for a walk when they are feeling angry.

Although a notable number of students (14% including almost equal numbers of males and females) reported that they 'do not know' if they would usually choose to watch T.V. rather than go outside to play a game, a sizeable proportion (15.8%) responded that they 'did not know' whether they feel better after physical activity. Over 80% of the males and 75% of the females reported being involved for at least half an hour three times a week or more in physical activity outside of Physical Education classes. When including those who are involved in at least half an hour of physical activity once or twice per week outside of class, the percentages rise to 96.4% for males, and 95.2 % for females.

In order to provide complete information on how students were applying their knowledge of fitness to their everyday activities, students were asked to list the two games, sports or physical activities they really like to do. For the purposes of reporting, only those sports selected by 50 or more students have been included. (see Table 2.4 on page 13) No attempt was made to show differences in selection between males and females.

TABLE 2.4

STUDENT-SELECTED SPORTS BY POPULARITY (Grade 4)



The variety and nature of the activities in which the students reported being regularly engaged shows positive application of the desired objectives. The two most popularly chosen sports are baseball and soccer, which were selected by more than twice as many respondents as any other single sport. These results may reflect the popularity of these sports in the community sport activities for youth.

2.2.2.2 Self-Expression

Students reported a somewhat lower than expected level of involvement in creating their own activities during class time, although students are more inclined to invent their own activities on their leisure time. For example, under 40% of the students reported inventing their own activities in Physical Education class, but over 60% of them reported doing so in the school yard, and over 81% are involved in the creation of games and activities at home. No gender differences were noted in student self-creation of games and activities.

There were significant gender differences in the responses to items which assessed student appreciation of the aesthetic qualities of activities. For example, in the items which asked about grace and movement to music, significantly more females than males (31.2% vs 13.6%) reported enjoying 'a lot' being involved in sports containing smooth and graceful movements, and far more males than females (17.4% vs 4.2%) reported not being interested in these sports at all.

In addition, there was clear gender difference shown in the sports which females and males preferred to watch. More females than males reported that they enjoy watching sports with smooth and graceful movements (30.7% females vs 19.9% males) and activities which are done to music (26.8% females vs 14.5% males). In contrast, over three times as many males as females reported that they do not like to watch these activities at all.

Males and females reported somewhat similar attitudes towards the importance of playing well, and in playing one's best rather than to win. There were gender differences, however, in the aspect of competitiveness in play, since a higher percentage of males than females regularly keep scores in any game they play (14.2% vs 9.1%).

2.2.2.3 Independence

A strong majority of students (94.1%) reported that they are prepared to participate in sports despite not being good at them, and very few (2.1%) reported an unwillingness to learn new sports and games. There were no gender differences shown in these areas. More than twice as many females as males, however, (9.1% vs 4.5%) reported that they will not participate in a sport which involves a lot of running.

A relatively small percentage of students (20.5%) reported that they **always** choose to play on playground equipment during recess time at school, whereas nearly half of the population (42.1%) reported that they **always** play sports or games. It is significant to note that more than twice as many males as females (28.6% to 12.8%) were in the latter group, whereas about one-third more females than males (35.0%-20.9) reported that they **sometimes** play sports and games.

2.2.2.4 Safety

The vast majority of students in the sample (95%) reported that following the rules of a game would make the game more fun as well as more fair. In addition, 93.6% of the students believed that following the rules of a game will **not** make the game more dangerous.

2.2.2.5 Social Interaction

Both males and females reported that they are involved in a wide variety of activities out of school. Playing outdoors and participation in community-organized sports activities are the most popular reported activities, having been reported as 'always played' by 45.1% and 38.7% students respectively. Females reported somewhat less involvement than males (23.6% to 15.1%) with community organized sports, but both genders reported virtually equal interest in playing outdoors with friends and family members.

There were marked gender differences in some of the other reported activities. More than twice as many males as females (12.9% vs 5.2%) indicated that they 'always' play video or computer games, and approximately the same proportion of females over males indicated that they 'always' read. In contrast, more than twice as many females as males (13.1% vs 5.9%) indicated that they 'never' play video or computer games. Playing with toys/puzzles and engaging in a hobby are the two least popular leisure activities and were reportedly 'never' played by 26.1% and 16.8% of the students respectively.

An indication of the kinds of leadership qualities which the students possess was given in response to a number of items about how they would react to various situations. Both males and females showed excellent understanding and regular practice of the qualities associated with good sportsmanship. Seventy-eight percent (78%) of the students in the sample reported that they always play by the rules, and an additional 20.6% indicated that they sometimes play by the rules.

Males showed somewhat higher inclination to argue with officials when they do not agree with a decision, but almost one half of the students (46.5%) reported that they never get angry when they lose a game. The same proportion said that they let others take turns in a game even if they are not the best players.

Ability to get along with others was shown in items which asked students to respond to scenarios that might occur in Physical Education class or during games. When asked how they would handle the situation in which they were placed with a partner they did not want to be with during Physical Education class, 72% of the respondents reported that they will play and cooperate with the partner anyway. More males than females, (8.7% compared to 6%), reported that they would play with, but will not talk to, their partner. Almost twice as many males as females (7.3% to 3.8%) indicated that they will ask the teacher to assign them another partner. Very few students (2.7%) reported that they will not play at all in this situation.

More males than females (22% to 14.2%) reported that they will retaliate if someone trips them while playing tag. The majority (76.2%), however, agreed that they will play as if nothing had happened. This group was made up of 34.7% males and 41.5% females.

2.2.2.6 Summary of Affective Test Results

Student responses showed very favourable attitudes toward physical education, and an apparently good understanding of the role that physical activity and fitness play in the maintenance of a healthy body. Results also showed that Physical Education classes are popular with both males and females and that students do not look upon these classes as boring.

Both males and females reported enjoying games, and the results showed that males tended to indicate interest in games that improved skill development, whereas females preferred games that improve fitness. On their own time, the majority of students reported participating in sports which could be classified as those requiring high organization and offering either high or moderate activity level.

Students reported being interested in creating their own games and activities, although school does not appear to provide for this outlet as much as do other areas of their lives. Both males and females reported being involved in developing their own games, and in inventing their own activities.

Gender differences were indicated in the area of aesthetics of sport. It was shown that even though both males and females like to watch sports, females were significantly more interested than males in spectating at sports which included graceful and smooth movements, or movements done to music. There were also gender differences in competitiveness, and in the choice of leisure activities, with males being far more competitive than females. Females were more likely than males to read for leisure, and males were more likely than females to want to play video or computer games.

Although males and females both showed understanding of the importance of good sportsmanship and fair play, females' responses indicated that they practice these behaviors more regularly than males, and show somewhat more respect for other players and for officials.

2.3 Teacher Survey Results

The teacher questionnaire which was completed by 143 of the 179 randomly-selected teachers of Physical Education formed part of the Grade 4 Physical Education Assessment. Information was gathered on professional training and activities, materials and resources, instructional activities and facilities, and organizational arrangements. The following is a summary of the information gathered through the survey.

2.3.1 Professional Development

Half of the teachers responding to the questionnaire reported that they spend 50% or more of their time teaching Physical Education. Another 36% are involved in Physical Education less than 25% of their time. Of those responding to the question, only 6% of the teachers reported teaching Physical Education in more than one school, and 64% of them reported having classroom responsibilities other than Physical Education.

Responses indicated that one-fifth of the teachers who currently teach Grade 4 Physical Education possess no formal Physical Education training while the same fraction reported having two or more university/college courses in Physical Education. Thirty-six percent (36%) of the respondents hold a Bachelor of Physical Education degree or equivalent, and 18% and 9% respectively hold other degrees with either a major or minor in Physical Education. The college and university courses which respondents have taken in the area of Physical Education were varied. Table 2.5 on page 17 lists the courses from most to least frequently attended.

TABLE 2.5

PRE-SERVICE TEACHER TRAINING COURSES IN PHYSICAL EDUCATION
(Grade 4)

74%	games
71%	dance/movement
70%	sports skills
68%	movement learning
68%	growth and motor development
56%	health
52%	exercise physiology
49%	adapted physical education
41%	nutrition

In addition to pre-service training, the teachers reported varied backgrounds of inservice-training in specialty areas within Physical Education. By far the most frequently attended source of professional development (PD) activities is SAG[2]. Seventy-seven percent (77%) of the Physical Education teachers reported SAG as a major PD source within the last three years. The second most popular workshops for Physical Education teachers, cited by 65%, are those on Physical Education topics sponsored by the various school divisions.

Reading professional journals was cited by 58% of the respondents as a source of PD; 33% reported attending Manitoba Education-sponsored workshops; 30% reported NCCP Coaching certificate courses. Other PD sources included college and university credit courses, and membership on PD or curriculum committees.

Respondents were asked to list the professional development areas in which they had already participated, and then to indicate the three in which they would like to participate in future (see Table 2.6 on page 18). Teachers in the sample have been involved in workshops on a wide variety of topics related to Physical Education. More than half of them reported participating in workshops in Physical Fitness, Quality Daily Physical Education (QDPE), and Basic Movement Skills. Over one third of teachers expressed interest in participating in workshops on Physical Fitness, Quality Daily Physical Education, and student evaluation in the future.

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[2] SAG refers to Special Area Groups of the Manitoba Teachers' Society for whom a major annual conference is organized by each of these groups with the support of the Society.

TABLE 2.6

WORKSHOP PARTICIPATION - GRADE 4 PHYSICAL EDUCATION TEACHERS

Area	Have Participated	Wish to Participate
Physical Fitness	51%	36%
Quality Daily Phys Ed	50%	36%
Student Evaluation	32%	35%
Basic Movement Skills	59%	29%
Student Leadership	36%	27%
Health-related Topics	34%	22%
Phys Ed in Affective Domain	25%	19%
Special Needs	29%	15%
Other	2%	1%

The teachers were asked to indicate whether they had taken St.John Ambulance courses, Red Cross First Aid courses, or CPR Certification programs which are made available to Physical Education teachers on a regular basis. The responses indicated that a majority of the respondents (85%) have taken either a St. John Ambulance training program or a Red Cross First Aid course, and 68% have participated in CPR Certification programs[3]. A total of 37% currently hold valid St. John Ambulance or Red Cross First Aid certificates, and 27% have current CPR certification[4].

Teachers of Physical Education reported a wide range of professional affiliations. The most widely held membership among the teachers in the sample is the MPETA (Manitoba Physical Education Teachers Association), which is reportedly subscribed to by 44% of the sample. Following at quite a distance behind are CAHPER (Canadian Association of Health, Physical Education and Recreation), and CIRA (Canadian Intramural Recreation Association) 17% and 11% respectively. All other memberships were reported by fewer than 10% of those surveyed.

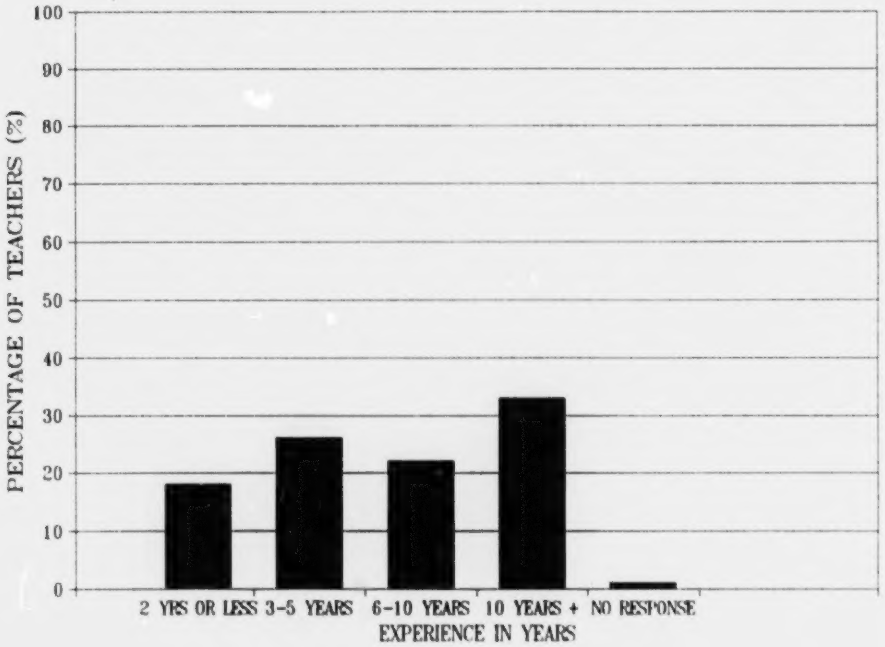
The teaching experience reported by the teachers in the sample indicated wide variety and background, and is illustrated in Table 2.7 on page 19. Over half the Physical Education teachers (55%) indicated that they have been teaching Grade 4 Physical Education for 6 years or more.

[3] Cardio-Pulmonary Resuscitation

[4] It should be noted that a total of 19% of individuals did not respond to the first item in this set and another 31% did not respond to the second.

TABLE 2.7

TEACHING EXPERIENCE - GRADE 4 PHYSICAL EDUCATION TEACHERS



Nearly one-fifth (18%) of the respondents reported that they have two years or less experience teaching Physical Education at the Grade 4 level. Ninety-four percent (94%) of the respondents have teaching experience at the grade K-4 level, 83% at the grade 5-7 level, and 41% at the grade 9-12 level (Senior 1 to 4).

2.3.2 Teaching Conditions

Respondents were asked to indicate some specific information about the schools to which they were assigned. It appeared that the largest majority (52%) of the respondents work in K-6 schools. The next highest representation at 14% was K-8 and K-9 schools with K-12 schools following closely behind at 12%. All other types of school organization were represented by 3% or fewer of the respondents[5].

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[5] Respondents who work in more than one school were directed to answer all questions based on the school whose name was first in alphabetical order.

Seventy-five (75%) percent of the represented schools are on a 6-day cycle, and 15% are on a 5-day cycle. Only 5% of the individuals responding indicated that they have some other organizational system. The number of minutes per cycle in which Grade 4 students are scheduled for Physical Education varied somewhat from one school to another (See Table 2.8 below).

TABLE 2.8

NUMBER OF MINUTES PER CYCLE DEVOTED TO GRADE 4 PHYSICAL EDUCATION

No. of Minutes in Phys Ed class	Equivalent No. of 35-40 minute periods/6 day cycle	Frequency
0-40	1	5%
41-80	2	8%
81-120	3	50%
121-160	4	25%
161-200	5	6%
210-240	6	3%

The most frequently reported length of class period was between 81 and 120 minutes, constituting the equivalent of three thirty-five or forty minute periods per 6-day cycle. The next highest reported length of time was 121 to 160 minutes, representing the equivalent of 4 periods of 35-40 minutes per 6-day cycle. From the data, we can conclude that 88% of the respondents work in schools which **do not** offer the recommended minimum average of 30 minutes of Physical Education class time per day. The information may suggest that 9% of the respondents work in schools that do.

Respondents were asked to indicate the number of students in the largest and in the smallest Physical Education class they teach. The average of the largest classes reported was 21 students; the average smallest class was 18 students.

Respondents were asked to indicate their current grade level teaching assignments. Nearly two-thirds of the group indicated that they teach single-grade classes; 17% of the sample who responded reported that they teach a split grade 3 and 4; 10.4% teach a split grade 4 and 5; and 7% indicated that they teach multi-grade classes made up of Grades 4, 5 and 6.

A small number (14%) of the respondents indicated that they team teach in Physical Education. Although 8% indicated that they teach some of their classes with a partner, the vast majority (73%) reported that they do not share instruction with another teacher. Availability of facilities was fairly consistent among the respondents, but use varied somewhat. Table 2.9 below illustrates these results.

TABLE 2.9

ACCESS TO AND USE OF PHYSICAL EDUCATION FACILITIES
(Grade 4 Classes)

Facility	Access	Regular Use
Outside/school playground	84%	78%
Gymnasium (1 teaching station)	75%	82%
Gymnasium (2 teaching stations)	15%	10%
School field	70%	68%
Off-site facilities	50%	15%
Classroom space	41%	8%
Multi-purpose room	27%	4%
Mini-gym	15%	10%
Weight room	8%	1%

School playgrounds are available to the large majority of Physical Education teachers, and the majority of those who have them make regular use of these facilities. School sports fields are a little less accessible, although good use is made of those that are available. Ninety percent (90%) of the respondents have access to either a full gymnasium or a shared one.[6] Nearly all of those who have access to gymnasiums reported using them regularly.

Although multi-purpose rooms are available to over one quarter of the teachers responding, only 4% reported using them regularly. Weight rooms are accessible to 8% of the respondents and they are the least used overall of the facilities. Since classroom space in any school can normally be obtained simply through effective timetabling, it is not surprising to find nearly half of the respondents indicating that they have access to them. First Aid Kits, convenient change areas, office space and adequate storage are available in most of the schools. Stretchers, although not mandatory, are available in 8% of the schools represented.

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[6] The apparent contradiction between the accessibility and use of gymnasiums may be explained by the fact that some of the respondents who have no gymnasium in their own buildings may have failed to list them as accessible, but who nevertheless make use of them.

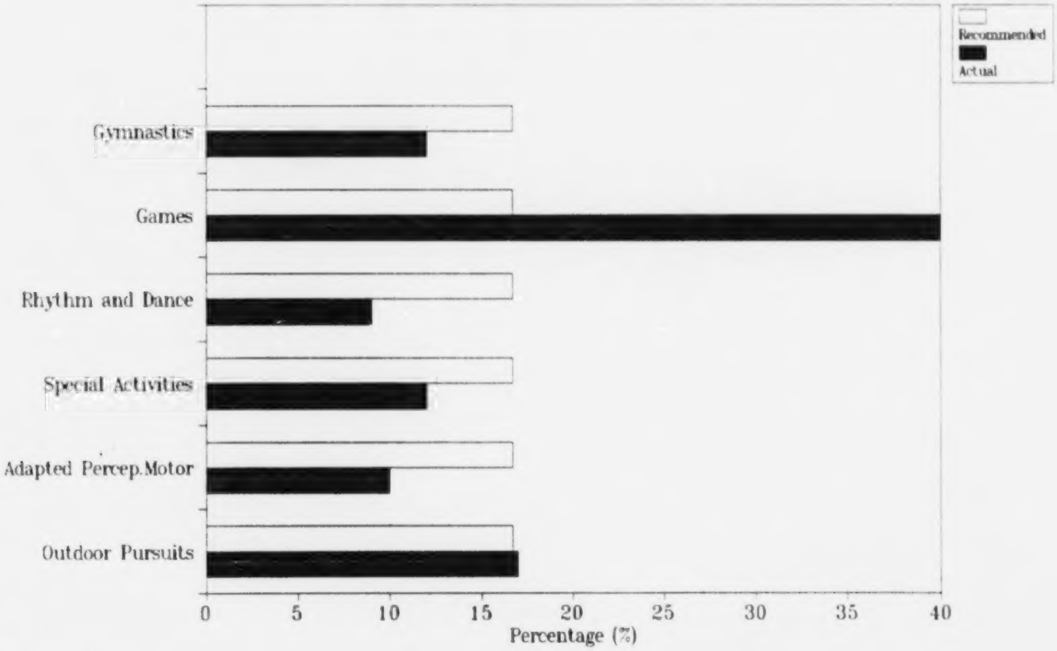
2.3.3 Methodology

Ninety-two (92%) percent of the respondents reported having a copy of the 1981 *Manitoba Physical Education Curriculum Guide* (K-12), and 78% reported using it at least to some extent. Twelve percent (12%) of the respondents reported that they base their program on the guide, and 66% refer to the guide as a reference only. Eleven percent (11%) reported that they do not use the guide at all. Of those who make use of the curriculum guide, 81% use the objectives and 80% use the activity suggestions. A large number reported using the learning goals (77%) and sub-objectives (75%).

Respondents were requested to indicate the approximate percentage of time spent in specific areas of Physical Education. See Table 2.10 below for the results, which can be compared to the recommended guidelines based on the *Manitoba Physical Education Curriculum Guide* (K-12).

TABLE 2.10

ACTUAL AND RECOMMENDED CURRICULUM EMPHASIS (Grade 4)



Curriculum emphasis varied somewhat among the respondents, although some significant trends were shown. Ninety-one percent (91%) reported that they use games in their programs, and a great proportion of teachers devote more than the recommended time to this segment of the curriculum.

Outdoor pursuits are included in 86% of the programs and the majority of the programs provide 20% or less of their time for this area. In the majority of cases, Gymnastics and Rhythm and Dance make-up no more than 10% of the programs reported. Respondents were asked to indicate some reasons for their de-emphasis of the various special areas within the Physical Education Curriculum. Table 2.11 below provides an analysis of the results. The numbers in the table reflect the actual number of teachers making the comment since only a small percentage of the sample provided written comments.

TABLE 2.11

CURRICULUM AREAS DE-EMPHASIZED AND REASONS
(Grade 4)

Curriculum Area	Gymnastics	Rhythm and Dance	Adapted Perceptual-Motor[7]	Outdoor Pursuits
Lack of Training	24	18	5	N/A
Lack of Equipment	16	N/A	N/A	2
Program Considerations	N/A	13	5	N/A
Logistical Problems	2	N/A	4	4
Religious Prohibitions	N/A	10	N/A	N/A

The single most often-cited reason was lack of training, which affected the teaching of Gymnastics and Rhythm and Dance mainly. Lack of equipment was seen as a limiting factor by only 18 of the respondents and affected mostly Gymnastics. Programming considerations, such as overlap with other curricula, or lack of interest in the subject, caused problems for 18 teachers, but logistical aspects such as timetabling, length of period, and so on were viewed as a problem in only 10 of the cases.

Religious prohibitions accounted for some program de-emphasis in Rhythm and Dance, although this particular reason was not reported to have had a negative effect on any other Physical Education area.

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[7] Adapted Perceptual-Motor is the term used in the *Manitoba Physical Education Curriculum Guide* (K-12). The current term is Basic Movement Skills. This change in terminology may have caused some misunderstanding on the teacher questionnaire.

Safety issues are reported to be dealt with in a direct manner by 51% of the respondents. An additional 35% of the respondents reported dealing with this topic in an indirect way. Safety and personal space awareness are reportedly taught directly by 86% of teachers.

Emphasis on integration with other subject areas has become a practice encouraged in many of the new curricula. Sixty-seven percent (67%) of the Physical Education teachers responding indicated that they integrate concepts from other curriculum areas. Table 2.12 below illustrates the curriculum areas most frequently integrated into Physical Education teaching based on the percentage of teachers who integrate other subject matter in their instruction of Physical Education. The data indicated that teachers integrate more than one subject area into Physical Education instruction. A separate item asked respondents to indicate the extent to which they integrate Health with Physical Education. These figures have been included in the table as well.

TABLE 2.12

DEGREE OF INTEGRATION OF OTHER SUBJECTS WITH PHYSICAL EDUCATION (Grade 4)

Curriculum Area	Percentage of Frequency	Degree of Integration
Health	57	4% – great extent 30% – moderate extent 23% – limited extent
Music	44	
Mathematics	41	
Language Arts	30	
Social Studies	22	
Science	22	
Art	6	

Although the curriculum guidelines are set by Manitoba Education and Training, the delivery method and activity selection are largely a matter of teacher choice. Respondents were asked to list how frequently per cycle various activities and techniques were used during Physical Education class. The results show that although 'student choice of activity' is the **most widely used** of the special activities, 'free play' is the **most intensely used**, reportedly used each week or cycle by almost one-quarter of the respondents, and a few times a month by an additional 27% [8]

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[8] Free Play is sometimes used appropriately as a warm-up or settling-in activity before class begins.

Co-operative activities appeared to be more frequently used overall than competitive ones. All of the respondents reported using co-operative activities to at least some extent, whereas only 4% of the teachers reported using no competitive activities at all.

Thirty six percent (36%) of the respondents reported having students with disabilities in their Physical Education classes. Of those who do, 16% indicated that they require appropriate training and professional development, but only 8% indicated that they receive it. Administrative support (in the form of time for PD, money for substitutes and/or equipment etc.) is reportedly received by 20% of the teachers. Special equipment is reportedly required by 13% of the teachers but received by only 7% of them.

Being involved in the development of Individual Education Programs (IEP's) is often a component of working with students with disabilities. The results from this survey indicated that, of the respondents who teach students with disabilities, 62% reportedly participate to some extent in developing IEP's.

The greatest emphasis in the area of student assessment appears to be in the area of behavior, participation and effort, emphasized *to a great extent* by 86% of the respondents, and with *moderate emphasis* by 11% of them. Fitness is a distant second place focus for assessment, emphasized *to a great extent* by only 26% and to a *moderate extent* by 53%. The third most emphasized focus area for student assessment is in psychomotor or basic movement skills. Twenty-one percent (21%) of the respondents indicated that they emphasize this area *to a great extent*, and 59% *to a moderate extent.* The area of least concentration for student assessment appears to be the area of knowledge and understanding of concepts. Great emphasis is reportedly given to this focus by only 10% of all respondents, and *moderate* or *little emphasis* by 79% of them.

Types of assessment used for student evaluation in the Grade 4 program vary greatly, although, according to the results, teacher observation is by far the most popular, reportedly used by 96% of the teachers surveyed.

More than half (55%) of those responding indicated that they use fitness tests to evaluate student performance, and 36% reported using skill tests. Student self-assessment and peer assessment were much less popular forms of student evaluation, reported by only 20% and 8% of the sample respectively.

Reporting to parents on student progress is also done in a wide variety of ways. Written anecdotal reports and letter grades were reported by almost equal numbers of respondents (55% and 53% respectively). Verbal anecdotal reports were reported by 32% of the teachers responding. Twenty-four percent (24%) of the respondents favor fitness profiles and the same number use skills check lists. Only 1% indicated that they use percentage marks to report on student progress in Physical Education.

2.3.4 Co-curricular Activities

Respondents were asked to indicate which co-curricular activities were available to students during the school year. Intramural sports, at 76%, was the most widely identified. Play days appeared to be quite popular, with 59% of the respondents indicating that they are being offered in their schools. Sports clubs and co-ed inter-scholastic sports followed closely behind at 50% and 43% respectively.

2.4 Highlights Grade 4 Results

In general, the assessment results for Grade 4 indicated the following:

- Using the *Manitoba Schools Fitness Criteria* (1989), a sizeable proportion of students are at a level of fitness which could lead to health risk in later life. Students however, performed better on cardiovascular fitness than on muscular endurance tasks.

- Students at the Grade 4 level have a solid understanding of the theory and concepts related to Physical Education.

- Students are keenly aware that regular physical activity is important for staying healthy and for maintaining fitness and they claim to be participating in physical activities on a regular basis.

- Students are knowledgeable about the types of activities in which they need to participate to maintain fitness.

- There are some gender differences noted in choice of activity. For example, females showed a greater appreciation than males for activities demonstrating smooth and graceful movements, whereas males have a greater appreciation than females for activities using skill and competition and which involve a lot of running.

- Students enjoy going to Physical Education class and like participating in Physical Education activities.

- Co-operative activities are used to some extent by all Physical Education teachers at the Grade 4 level. Students demonstrate strong co-operative skills, and do not place great importance on winning per se, although males reported greater inclination than females to keep score in any game they play. Males show higher propensity than females to become involved in unsportsmanlike behaviors.

- Students have the opportunity to be creative, but that these opportunities tend to occur much more frequently outside of Physical Education class, namely at recess and at home.

- Less than one-tenth of the students at Grade 4 level receive the recommended minimum (equivalent to 30 minutes per day) of Physical Education class time.

- Approximately one-fifth of the Physical Education teachers at Grade 4 level have no formal training. An additional one-fifth have fewer than the required courses for a degree in Physical Education.

- Approximately two-thirds of the Physical Education teachers at Grade 4 level have class responsibilities other than Physical Education (i.e., they teach other subjects).

- Three-quarters of the Physical Education teachers report the annual conference, SAG, as a major source of PD while divisional inservices on Physical Education topics seem to have provided a fairly significant source of PD for Physical Education teachers at the Grade 4 level. Although teachers have had inservicing in a variety of areas, there continues to be a need for workshops on certain topics (e.g, Physical Fitness, QDPE, and Evaluation).

- Two-thirds of the Physical Education classes are single grade situations.

- The curriculum areas most de-emphasized are Rhythm and Dance, and Gymnastics. Reasons most often cited for de-emphasis are lack of training, lack of equipment and programming problems.

- Many Physical Education teachers integrate other subject areas into their Physical Education programs. Health is the most frequently integrated subject.

- Nearly one-third of the Physical Education teachers at Grade 4 level teach students with disabilities, but few have the appropriate educational background for this assignment, and few participate in the development of IEP's on a regular basis.

- Teacher observation is the most widely-used method of assessing student progress in Physical Education.

- In reporting to parents, the areas most concentrated on by Physical Education teachers are behavior, participation and effort. Skills, fitness and knowledge of concepts receive little attention in evaluation.

2.5 Conclusions and Recommendations—Grade 4

The Technical Advisory Committees for the Grade 4 Physical Education Assessment make the following recommendations based on the results obtained from the student performance test, the student written test, and the teacher questionnaire. The letter(s) which appear(s) immediately after each recommendation indicate(s) the primary responsibility for that recommendation, since there could be overlapping responsibilities. In each case responsibility is directed to one or more of the following:

Manitoba Education and Training	**M**
School Divisions/Schools	**S**
Teachers	**T**
Faculties of Education	**F**

Given that student fitness is low, and there is evidence that students are enthusiastic about Physical Education classes and have pursued physical activities on their own, according to interest and ability, it is recommended that:

1. **students be encouraged, through their Physical Education program, to participate in sports with high potential for fitness improvement. (T)**

2. **programs be provided which will encourage students to experience activities and learn skills which, in later years, will assist them in maintaining life-long fitness. (S,T)**

Given the rising trend toward violence in the schools, and given the fact that some students are still unsure about fair play practices and sportsmanship, it is recommended that:

3. **co-operative activities and fair play information be included in Physical Education programs. (S,T,M)**

4. **that appropriate content from Health and Social Studies be integrated with Physical Education instruction to reinforce concepts such as fair play, cooperation, acceptance and tolerance. (M,S,T)**

Given the fact that most Physical Education classes at the grade 4 level are co-educational and operate in one-teaching station gymnasiums; given that the majority of students indicated there is little opportunity for them to be creative in the Physical Education program; and given that there are distinct gender differences shown in activity preference, it is recommended that:

5. **increased opportunities be provided for both males and females to engage in and observe activities that include both smooth and graceful movements and those which are more strenuous. (T)**

6. **the issue of increased student choice of activity be addressed. (T, S, M)**

7. **additional opportunities be provided in the Physical Education program or curriculum for students to invent and create their own games and routines. (T, M)**

Given the fact that a large percentage of students demonstrated a lack of development of neuromuscular and manipulative skills (i.e., have not reached the level indicated as 'developed'), it is recommended that:

8. **there be additional emphasis placed on skill acquisition during class and that games and activities focus on skill development. (T)**

9. **progressions be emphasized in teaching new skills. (T)**

Given that many schools are not allocating the recommended time for Physical Education and student performance shows much room for improvement, it is recommended that :

10. **increased monitoring be done to encourage the adherence to recommended time allotments. (S,M)**

11. **more effective use be made of time in Physical Education classes. (T,S)**

Given that a significant proportion of Physical Education teachers do not have the required formal training for their assignments; given that teachers de-emphasize a number of areas in the curriculum; given that teachers continue to request additional inservicing, and given that they are not current with certification in Red Cross and First Aid, it is recommended that :

12. **ongoing inservicing be provided in the areas of the curriculum being de-emphasized (e.g., Rhythm and Dance, Adapted Perceptual Motor (Basic Motor Skills) and Gymnastics. (S, M)**

13. **ongoing inservicing be provided in the areas of professional development being requested (e.g., Quality Daily Physical Education, Fitness and Student Assessment in Physical Education). (M, S)**

14. **strong consideration be given to the hiring of only qualified Physical Education teachers. (S,M,F)**

15. **current Physical Education teachers be surveyed to verify validity of First Aid/Red Cross/CPR certification and be assisted in validating these. (S)**

16. **Faculty students receive First Aid/Red Cross/CPR certification courses as part of the Physical Education training program. (F)**

17. **Physical Education students at the University be offered appropriate instruction in designated areas of the Manitoba Physical Education curriculum to better prepare them for their assignments. (F)**

CHAPTER 3

GRADE 8 RESULTS OF PHYSICAL EDUCATION ASSESSMENT

The Grade 8 Physical Education Assessment 1993 consisted of a written test, performance test and teacher survey. The performance test was designed to provide information on student fitness and skill levels. The written test provided information on student knowledge and understanding of Physical Education concepts and on student attitudes and opinions towards Physical Education. The teacher survey was designed to provide information on teacher preparation and background, materials and resources, instructional activities, and facilities and organizational arrangements.

The results have been organized in this Chapter according to the learning goal and content area categories from the 1981 *Manitoba Physical Education Curriculum Guide (K-12)*. For the convenience of the reader, the categories are listed below.

Learning Goal	**Content Area**	**Heading in this Report**
1	Develop Physical Well-Being	Fitness
2	Develop Desired Movement Patterns Through the Neuromuscular System	Skills
3	Express Ideas, Thoughts, and Feelings with Confidence Through Physical Activity	Self-Expression
4	Develop an Independence in Pursuing Physical Activity Throughout Life	Independence
5	Develop Safety and Survival Practices	Safety
6	Develop Positive Social Interactions Through a Variety of Physical Activities	Social Interaction

3.1 Performance Test Results

3.1.1 Overview

The performance component was designed to address the curriculum objectives which are psychomotor in nature. A sub-sample of students from the written test sample was randomly selected to participate in this portion of the assessment. Students with medical or physical conditions which would prohibit their participation were excluded.

A total of 226 students (111 male and 115 female) participated in the Grade 8 Physical Education performance test. The test consisted of activities that assessed both fitness and skills, and was conducted in two parts — Part A which was administered by the Physical Education teacher in the school, and Part B which was administered by a team of teacher-testers who had been specially trained by staff of Curriculum Services, Manitoba Education and Training to administer the test. Administration of both parts of the test was carried out according to a specified test protocol to ensure inter-rater reliability[9], and to ensure that students left the testing situation with a sense of accomplishment. All students were given a 3-4 minute warm-up period before the start of each testing session.

The results of the Fitness subtests (Tables 3.1a and 3.1b on page 32) show the average scores for the test population. In addition, they compare student performance to the desirable level (fitness criteria) as outlined in the *Manitoba Schools Fitness Criteria* (1989) document which supplements the 1981 *Manitoba Physical Education Curriculum Guide* (K-12).

The results of the Skills subtests show the percentage of students performing at the Mature (developed) or Formative (developing) levels. The assessment of the level of performance as Mature or Formative was based on designated criteria for the respective subtests. Student performance was rated Mature (M) only if all criteria for the subtests were satisfied. If one or more of the designated criteria were not met, the student performance was rated Formative (F). These criteria are included in Table 3.2 on page 35.

The results have been reported by gender since the fitness criteria in some areas differ for males and females according to the *Manitoba Schools Fitness Criteria* (1989) curriculum supplement. The ratings on the Skills Subtests (Table 3.2 on page 35) were based on common criteria for male and female students.

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[9] Inter-rater reliability refers to the consistency with which the same test or observation is evaluated by a number of different testers.

TABLE 3.1a
FITNESS RESULTS — MALE (Grade 8)

Fitness Subtest	Student Performance					N = 111
	Average	Maximum	Minimum	At or Above Average %	Below Average %	Criteria & % Pass*
1600 m Run	8:20 mins.	16:03 mins.	6:08 mins.	64.9	33.1	≤8:30 57.7%
Push-ups	20	56	1	50.5	49.5	≥20 62.2%
Sit & Reach	28 cm	50 cm	8 cm	49.5	50.5	≥30 37.8%
Sit-ups (Curl-ups)	36	58	5	49.5	50.5	≥40 36.9%

*Based on the *Manitoba Schools Fitness Criteria* (1989)

TABLE 3.1b
FITNESS RESULTS — FEMALE (Grade 8)

Fitness Subtest	Student Performance					N = 115
	Average	Maximum	Minimum	At or Above Average %	Below Average %	Criteria & % Pass*
1600 m Run	8:20 mins.	18:50 mins.	6:01 mins.	55.7	44.3	≤9:45 49.6%
Push-ups	9	28	1	45.2	54.8	≥15 17.4%
Sit & Reach	34 cm	51 cm	15 cm	36.5	63.5	≥30 73.0%
Sit-ups (Curl-ups)	27	49	5	78.3	21.7	≥36 13.9%

*Based on the *Manitoba Schools Fitness Criteria* (1989)

3.1.2 Fitness

The 1600 meter run was performed outdoors by both males and females, with time calculated to the nearest second. Average completion time was the same for males and females (8 minutes 20 seconds) but the 6:08–16:03 minute range of time for males was somewhat narrower than the 6:01-18:50 minute range for females.

When comparing student results with the average scores for the test population, over half the females (56%) and almost two-thirds of the males (65%) ran at, or faster than, the average time for their age/gender group in this endurance activity. When comparing results with the *Manitoba Schools Fitness Criteria* (1989), 57.7% of the males and 49.6% of the females ran at, or faster than, the average time for their age/gender group. (See Tables 3.1a & 3.1b on page 32). The fitness criteria included in these tables were based on data analyzed from a variety of fitness resources including MANFIT, CAPHER PERFORMANCE II, AAHPERD's HEALTH-RELATED FITNESS TEST, PHYSICAL BEST, FIT YOUTH TODAY, and several research articles written on health/fitness. Based on this information, criterion standards were established to indicate the levels of achievement at which health risk factors may be reduced.

Muscular endurance and flexibility were assessed by performance in Curl-ups, Push-ups and Sit and Reach activities. Generally, students did not perform well in these activities according to the *Manitoba Schools Fitness Criteria* (1989) levels, except for male performance in Push-ups (62.2%) and female performance in Sit and Reach (73.0%).

The Sit and Reach test is designed to assess a person's hamstring and lower back flexibility and is measured by each student's performance on a sit and reach task. Performance was calculated in centimeters on an apparatus known as a Sit and Reach Apparatus or 'flexometer'. Each student was given two trials, with only the better score being recorded. The average score for males was 26.6 cm (range 8 cm to 50 cm). It was lower than the 34 cm average score (range 15 cm to 51 cm) for females on this activity. Seventy-three percent (73%) of the females compared to 38% of the males were above the *Manitoba Schools Fitness Criteria* (1989) average for this grade level in flexibility.

Curl-ups and Push-ups were activities in which student performance was measured by the number of repetitions of each activity they were able to complete until they could no longer maintain a rhythm. Curl-ups were timed for one minute but Push-ups were untimed. The average number of Push-ups for males in this test population was 20 (range 1 to 56); for females, the average was 9 (range 1 to 28). Males performed significantly better on this sub-test than females, when comparing the results to the *Manitoba Schools Fitness Criteria* (1989) (62.2% vs 17.4%).

3.1.3 Skills

The performance tasks which were designed to assess neuromuscular movement patterns involving transport and manipulation skills included catching and throwing, striking, receiving and releasing, and kicking and trapping a ball. Table 3.2 on page 35 outlines the specific skills for this section and includes the established performance criteria for each skill subtest. Results are shown in percentages of students (male and female reported separately) who performed at the 'Mature' (developed) and those who performed at the 'Formative' (developing) levels.

The results indicated that males performed at a superior level overall compared to females in the skills activities. The one area in which the males showed a little weakness was in kicking a soccer ball. While females showed overall weakness they demonstrated strength in catching and trapping. They showed great weakness in striking, throwing, dribbling and kicking, with less than half the population performing at the Mature level.

TABLE 3.2

SKILL TEST RESULTS — MALE AND FEMALE (Grade 8)

^{N} Male = 111; ^{N} Female = 115

Skill Subtest	Criteria	Student Performance			
		Mature(M)		Formative(F)	
		Male	Female	Male	Female
Striking ball	• hip and trunk rotation • transfer weight from back to front foot • back swing and follow through • eyes focused on object being struck	84.7%	35.7%	15.3%	64.3%
Receiving, absorbing, releasing	• rhythmical series of passes and catches • contact initiated from finger tips • consistent evidence of absorption and release	85.6	60.0	14.4	40.0
Dribbling (basketball)	• pushing arm motion with finger and wrist flexion (not slapping) • rhythmical series of controlled bounces • focus of eyes can alternate between ball and direction of movement	79.3	66.1	20.7	33.9
Catching	• arms relaxed and bent and "give" with the ball • both hands reach out and catch ball • finger placement has thumbs together for a nigh catch, little fingers together for a low catch	93.7	84.3	6.3	15.7
Throwing	• opposite foot forward to throwing arm • body rotation occurs through hips, legs, spine and shoulder • weight shifts from back foot to forward foot • elbow leads throw, forearm drops and rotates, thumb points down	85.6	46.1	14.4	53.9
Trapping	• body behind ball • knees bent • weight on supporting foot	80.2	75.7	19.8	24.3
Dribbling (soccer)	• switching feet • body upright • looks up, away from the ball • body stays close to ball, between ball and cones	73.0	33.9	27.0	66.1
Kicking	• knee and hip flexion, initiated at the hip • arms swing in opposition • weight transfer, with "stepping" into the ball • body bends at waist throughout the movement	67.6	36.5	32.4	63.5

The students had an opportunity to "Evaluate Throw" whereby they demonstrated an understanding of the mechanics of efficient movement. In order to demonstrate that understanding, students were required to analyze and evaluate the teacher-tester's overhand throw of a whiffle ball which was done improperly. To ensure reliability of responses, students observed the throw together, and each student was isolated from the others to provide their evaluation. Results are shown in Table 3.3 and indicate the percentage of students who were able to correctly identify one, two, or three ways by which the tester's throw could be improved. There was no significant difference in male and female performance but almost one-quarter of both gender groups was unable to say in which way the throw could be improved.

TABLE 3.3

SKILL TEST RESULTS — EVALUATE THROW (Grade 8)

^{N} Male = 111; ^{N} Female = 115

Skill Subtest	Criteria	Student Performance		
		Ways identified %		
		Number of Ways	Male	Female
Evaluate throw	• opposition • weight transfer • body turn • follow-through • arm reaching back • eyes focused ahead on target	3 2 1 0	2.7 59.5 9.0 28.8	0 54.8 22.6 22.6

3.1.4 Summary of Performance Tests Results

The results on the cardiovascular endurance tests suggest that the group consisted of a few very fast, and a few very slow females; and several very slow, and several moderately fast males. Males showed overall better performance than females on tests of muscular endurance, although there was relative weakness shown for males in the area of flexibility. Upper body strength for females was seen as an area of relatively poor performance.

The results on the muscular endurance tests suggest that the Grade 8 sample group was made up of a small number of males who demonstrated high muscular endurance and a small number of females who demonstrated low muscular endurance. Females showed general weakness in manipulative skills, with specific weakness in throwing, striking a ball, kicking and dribbling. Males showed strong development of manipulative skills with some weakness in kicking a soccer ball even though two-thirds of the population performed at the 'M' or 'developed level'. The Technical Advisory Committee felt that there should have been better performance on dribbling and kicking a soccer ball given the fact that students have had several years of opportunities to practice these skills.

3.2 Written Test Results

3.2.1 Cognitive Items

Student knowledge of cognitive areas of Physical Education was assessed by means of a written test which was completed by a total of 1154 students (593 male; 545 female)[10]. Mean performance on the cognitive questions are reported in Table 3.4 below.

TABLE 3.4

MEAN SUBTEST SCORES (Grade 8)

Learning Goal	Maximum Score Possible	Mean Raw Score	Mean Percentage	Standard Deviation Raw Score
Fitness	22	18.52	84.18	2.87
Skills	14	11.35	81.10	1.96
Independence	3	2.26	75.48	1.12
Safety	11	8.86	80.54	1.54
Social Interaction	7	6.25	89.35	1.15
TOTAL	57	47.25	82.90	6.43

3.2.1.1 Fitness

Student understanding of the connection between physical fitness and health was shown to be very strong. Although slightly more than 8% did not realize that a direct connection exists between regular exercise and increased energy, almost all (97.3%) of those who responded were aware that exercising regularly would help them feel better about themselves.

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[10] There were 16 students who failed to indicate gender on their test papers.

There was an indication of weakness in the understanding of some specific terminology associated with fitness objectives. For example, in Item 86, only 40% of the respondents answered correctly that running is an example of 'aerobic activity'. Although the problem here may be one of lack of understanding, other factors could have influenced this result [11].

86. Running is an example of

*40.0% *A. aerobic activity.*
27.3% B. strength training.
30.0% C. agility.
1.8% D. flexibility.

More females than males reported knowing that Physical Education is important for becoming physically fit, but they agreed, in almost identical proportions, that participation in Physical Education helps an individual to learn about the body. Males were somewhat more knowledgeable than females about the impact of physical activity on muscular endurance, and on the specific body development that is associated with various sports. Females, on the other hand, exhibited somewhat more understanding of the impact and process of cardiovascular fitness.

Although the students in general tended to show a very good understanding of the relationships among body composition, appearance, nutrition, weight control and exercise, females generally showed superior knowledge over males in this area. Knowledge of concepts such as the direct, positive relationship between posture and self-image, and the inter-relationships among such components as exercise, caloric intake, body mass, and weight control were repeatedly better handled by females than males. Males did seem somewhat more aware of the nutritional value of foods. (See Table 3.5 on page 39.)

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[11] Some confusion may have arisen in this item. A number of respondents may have been somewhat confused between aerobic activity (using oxygen) and aerobic dancing. In addition, the old Canada Fitness Award program, with which some of these students may have been familiar, included an 'agility run'.

TABLE 3.5

BODY IMAGE, NUTRITION AND WEIGHT MANAGEMENT:
Differential Levels of Understanding Among Males and Females (Grade 8)

Concept Area	Percentage of Students Answering Correctly		
	Female	Male	Differential
posture and age	94.1	88.4	+5.7
exercise and energy	93.6	88.9	+4.7
posture and self-image	93.8	89.2	+4.6
height and ideal weight	93.9	89.4	+4.5
caloric intake and weight gain	96.7	92.6	+4.1
weight control	93.9	90.9	+3.0
physical fitness and exercise	96.7	94.1	+2.6
weight and exercise	97.2	94.8	+2.4
growth and exercise	94.3	92.1	+2.2
maintenance of normal weight	87.3	84.5	+2.8

3.2.1.2 Skills

Student knowledge and application of the mechanics of motor learning in the performance of skills was tested with a scenario in which they had to imagine that they were teaching a young child how to 'trap' or 'receive' a soccer ball. Knowledge was shown to be good, although not outstanding, with an average of just under 80% of the students selecting the correct answers. Student understanding of skill progressions, and their comprehension that correct practice results in improved performance was excellent with an average of 86% of the students answering correctly. There were no significant differences between male and female responses on items relating to these concepts.

Student responses to true-false questions indicated that they were aware that application of the mechanics of efficient movement results in improved movement quality. Once given a larger choice, as with multiple choice, the students had somewhat more difficulty, suggesting that the distracters may have been plausible enough to confuse some of the less-sure students. Perhaps, terminology may have caused difficulty as well. For example, in Item 83, the use of the term 'forearms' may have resulted in a lower performance than expected.

83. When you are receiving a volleyball serve, which part of your body should you use to return the ball?

19.8% A. palms of your hands
7.8% B. fists
5.1% C. knees
*67.0% *D. forearms*

3.2.1.3 Independence

Students appeared to have a good understanding of the need for continued active physical involvement throughout later life, and in the effectiveness of a fitness lifestyle for athletes and non-athletes alike. Students were asked to indicate where they might go, in the community, to participate in a number of sports selected from a list. Results showed that students are quite knowledgeable about their communities and the opportunities available for participation in physical activities out of school.

3.2.1.4 Safety

Although fewer than 45% of the males and 52% of the females agreed that learning how to move safely is an important part of Physical Education class, students were nevertheless fairly well versed in the major safety issues involved with the handling of equipment. It is clear that they understand the danger of such behavior as waving hockey sticks in the air, and the need to wear helmets when cycling and the use of mats when climbing ropes. The danger of wearing socks and no shoes in the gym, however, was apparently not well understood, with only three-quarters of the students responding correctly to Item 102.

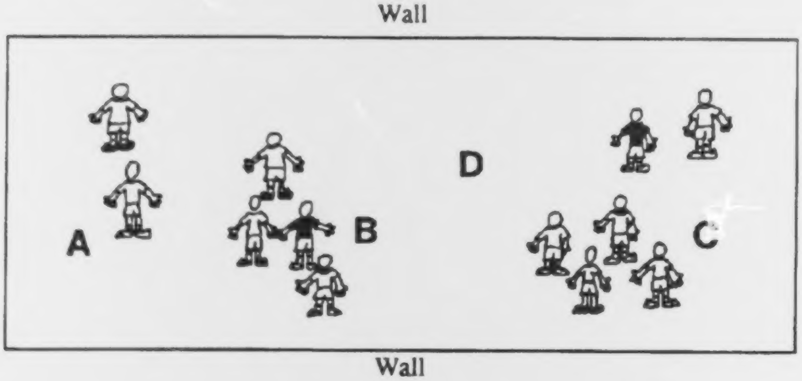
	A *Safe*	***B*** *Unsafe*
102. Wearing socks in the gym	23.0	76.5*

Although it is possible that the students really do not know this safety procedure, the item mentioned 'wearing socks', when it was actually referring to wearing socks **without shoes**. This slight clarification may have resulted in more representative data.

Safe set-up and use of equipment was apparently not well understood by the Grade 8 student sample. Only 54.6% of the student respondents were able to correctly choose the safest space to practise hitting a badminton bird in Item 94.

94. Several people are sharing the gym space in the picture below. Which letter in the picture shows the safest space for you and your partner to practise hitting a badminton bird?

37.4% A.
2.7% B.
4.3% C.
*54.6% *D.*



Student knowledge of the need to immobilize and get immediate help for a player who is injured was also weak. Students were, however, adequately knowledgeable in other basic First Aid procedures. In responding to scenarios about hypothetical situations, more than three-quarters of the students showed that they are reasonably well-versed in the appropriate procedures for effective first response to injuries occurring during sports activities.

3.2.1.5 Social Interaction

Grade 8 students on the whole demonstrated knowledge of the use and adaptation of various game or skill strategies and techniques, such as correct stance for ball delivery, pass strategy in soccer, or pivoting to escape opponents in basketball. An average of 77.5% of the students responded accurately to questions pertaining to this objective.

3.2.1.6 Summary of Cognitive Test Results

Students in Grade 8 understand well the need for regular exercise in order to maintain a fit body and a healthy lifestyle. Students have excellent understanding of the relationship between practice and improved performance, but are only adequately informed with regard to the use and adaptation of various game strategies and techniques.

Males, on the whole, indicated better understanding of physical activity and its relation to endurance and muscle strength. Females were comparatively more well-informed about cardiovascular fitness. Males demonstrated very good understanding of nutritional issues, whereas females showed stronger performance on issues related to the interrelationships among body composition, weight control and exercise.

Although fair play is reportedly practiced by both males and females, students reported occasional lapses into cheating and poor sportsmanship. Males indicated a greater propensity for cheating than females.

NOTE: Males' responses tended to be more polarized overall than females. This is illustrated in the high proportion of males responding with either Strongly Agree or Strongly Disagree choices, whereas females outnumbered males in the less extreme Agree or Disagree responses.

3.2.2 Affective Items

3.2.2.1 Fitness

Grade 8 students indicated strongly that they enjoy Physical Education classes and wished they had more of these. However, males tended to show more positive attitudes than females in this regard. In responding to a question on enjoyment of Physical Education classes, 60.2% of males compared to 35.8% of females agreed strongly that they enjoy Physical Education classes and 70.7% of males compared to 40.6% females indicated strong agreement that they would like to have more time for Physical Education classes.

Females also indicated somewhat less appreciation for various fitness activities than males. Males outnumbered females 82.6% to 70.5% in their reported enjoyment of games, and 54.5% to 36.5% in learning sports skills. Males and females agreed more closely on their enjoyment of activities which result in physical fitness, although males were still slightly more positive than females in this regard. Respondents were also in close agreement on their preference to go outside to play games rather than watch TV.

Students were asked to indicate the importance of various factors when choosing to participate in a physical activity, sport or game. In general, the students reported selecting activities for enjoyment first, for sense of physical well-being second, and third, for skill improvement.[12] Ability in a sport or skill, or the ability to participate when it is convenient for them, did not appear to affect significantly the students' selection of activities, although nearly 90% of respondents reported that socializing is, at least, somewhat important, with some notable differences between males and females. A significantly higher percentage of males (40.6% compared to 29.4% of females) indicated that they would be more inclined to get involved in an activity if their friends were involved. Nearly one-sixth of the female respondents, (16.5%) reported that this would not be a factor at all.

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[12] These findings support earlier studies done in the same area (National Fitness Canada Study 1981; Campbell Study 1986).

The cost associated with participating in physical activities was reported as not important at all to over 25% of all respondents at the Grade 8 level, although the test item pertaining to this did not specify whether the cost being considered was personal cost to the student, the parent or the school. Many more males than females (54.8% to 29.4%) reported that being able to compete against others is an important consideration when selecting activities. However, in another item on the topic of competitiveness 13% of the students reported that the non-competitive nature of an activity would be an important factor in their choosing to participate in it.

3.2.2.2 Self-Expression

Males at this grade level tended to select activities which promote the learning of skills and those which contain an element of competition. Females, on the other hand, were three times more likely than males to participate in activities which include routines to music, and nearly six times more likely than males to enjoy activities which include smooth and graceful movements. In addition, females were, on average, four times more likely than males to spend time watching activities with smooth and graceful movements and in watching movements done to music. Respondents were asked to indicate the frequency with which music was used for a variety of activities in their Physical Education classes. Table 3.6 below illustrates the results.

TABLE 3.6

USE OF MUSIC IN PHYSICAL EDUCATION CLASS (Grade 8)

ACTIVITY	FREQUENCY OF USE		
	Often	Sometimes	Rarely/Never
Folk/social dance	30.0	16.7	51.5
Exercise	27.4	32.3	40.1
Free Time	25.6	32.4	41.9
Creative Dance	24.6	18.7	56.1
Stretching/warm-ups	23.4	17.9	57.8
Skills	15.3	24.2	60.4

As can be seen from these data, activities in Grade 8 Physical Education classes are more often than not done without the accompaniment of music. Reportedly, this is true even for creative dance and for folk or social dance[13]. The only activities that students reported doing to music with any regularity are **exercise** and **free time**.

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[13] This item did not distinguish between activities that were used often and those that were rarely used in Physical Education classes. The high % of RARELY or NEVER responses may reflect that fact.

3.2.2.3 Independence

In reporting on their participation in activities outside of school, males reported significantly more intensive activity levels. Forty-one percent (41%) of males and 24.2% of females reported that they are physically active every day for at least 30 minutes. Males reported more frequent involvement than females in sports activities done on their own. Nearly half (47.4%) of the males and just over one-third (37.8%) of the females reported being involved every day in individual physical activities.

Around three-quarters of the respondents reported that, most likely, they would be involved in some group sports once they reach high school, and somewhat fewer indicated that they would be likely to do something physically active on their own at that time. Although a fairly large number (85.1%) of students indicated that they are likely to participate in intermurals in high school, over twice as many females as males (20% vs 9.8%) indicated that they thought it would be *unlikely* for them to do so.

Students at this level did not report being overly concerned about the stress-relieving benefits of physical activity. A notable 17.9% of the respondents (16.3% of the males and 19.4% of the females) reported that this is *not at all* an important element in Physical Education classes.

3.2.2.4 Safety

Almost all the students (90%) reported that it is important or somewhat important in Physical Education class to learn how to move or participate safely.

3.2.2.5 Social Interaction

Students were asked to react to a number of statements referring to fair play. Their responses indicated that they do not agree strongly that learning how to co-operate is an objective of the Physical Education Program (71% selected *important*; 28.6% selected *somewhat important*). The majority, however, displayed generally healthy attitudes toward, and comprehension of, the need for co-operation, dependability and tolerance in sports. Females tended to respond, on average, approximately 5% more positively than the males on this particular topic, and displayed superior attitudes toward such principles as respecting the decision of the officials, sharing play time with others, following the rules, and being a good sport.

On average, 10% more males than females expect improvement in skills, increased athletic ability and increased techniques of winning from their participation in sports activities. Six percent (6%) more females than males anticipate, from their participation in sports and physical activities, an improvement in their ability to co-operate, an increased understanding of the body, and practice in self-control.

Responses showed that good sportsmanship is practiced by most of the students, but some gender differences are clear in the response patterns. Nearly 29% of males and 11% of females responded that *most likely* they would get back at an opponent who tried to hurt them in a game. Conversely, twice as many females as males (52.5% vs 29.0%) indicated that they would **not** do so. Males were also two times more likely than females to make inaccurate referee calls in order to win, and three times more likely than females to break the rules if it would result in a win for their team. Females, however, were not immune to unsportsmanlike behavior in order to win. Their responses indicated that they are more likely than males (51.5% as compared to 44.9%) to consider purposely miscalculating in order to gain a higher score than they deserve.

3.2.2.6 Summary of Affective Test Results

Grade 8 students reported selecting physical activities for enjoyment first, for a sense of physical well-being second, and third, for skill improvement. Competition was not considered an important factor in their selection of activities for participation.

Males at the Grade 8 level indicated excellent attitude toward Physical Education activities in school and active participation in a number of community-based activities out of school. Females' attitudes were good, although not as consistently supportive for some areas of the program. Fitness appears to be an important issue in choice of activity for both males and females, but neither socializing, ability in the sport, nor participation cost played a large part in their selection of activities.

Females indicated that they appreciate being involved in and observing activities in which music is used for accompaniment, and in activities which promoted smooth and graceful movements. Neither males nor females, however, reported being involved in these activities to any great extent. Safety issues are considered important when participating in activities but there may be concern about fair play practices.

3.3 Teacher Survey Results

The teacher questionnaire which was completed by 103 of the 122 randomly-selected teachers of Physical Education formed part of the Grade 8 Physical Education Assessment. Information was gathered on professional training and activities, materials and resources, instructional activities and facilities, and organizational arrangements. The following is a summary of the information gathered through the survey.

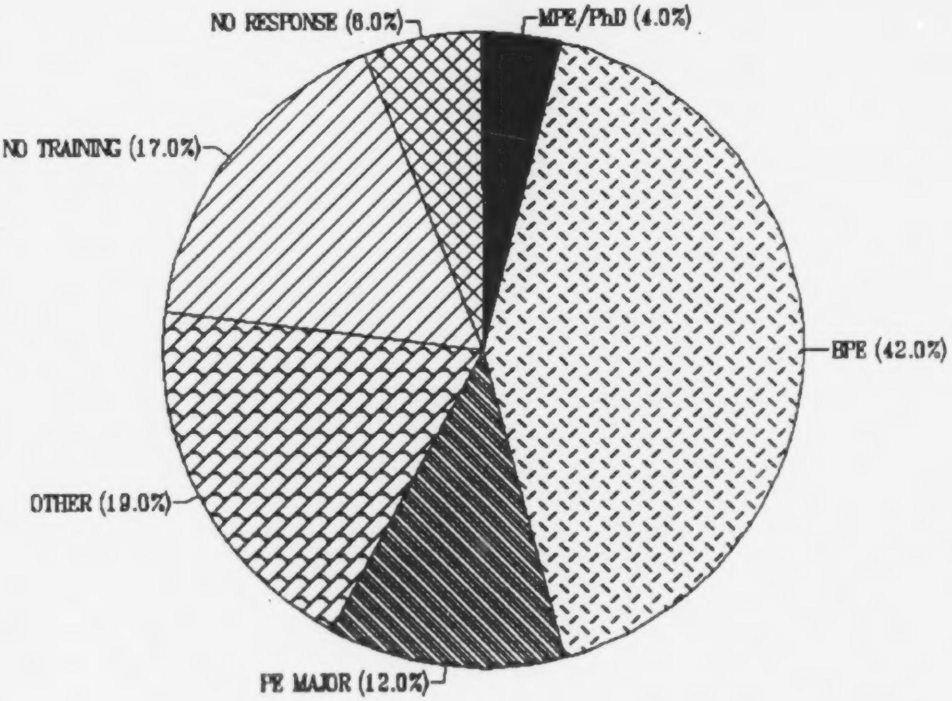
3.3.1 Professional Development

Slightly more than half (53%) of the teachers responding to the questionnaire reported that they spend 50% or more of their time teaching Physical Education. Another 30% are involved in Physical Education less than 25% of their time. Almost all (97%) of the teachers reported that they teach Physical Education in only one school, but 65% of them reported having classroom responsibilities other than Physical Education.

Responses indicated that slightly less than one-fifth of the teachers currently teaching Grade 8 Physical Education possess no formal Physical Education training, but 42% of the respondents hold a Bachelor of Physical Education degree or equivalent, and 12% and 11% respectively hold other degrees with either a major or minor in Physical Education (See Table 3.7 following).

TABLE 3.7

TRAINING BACKGROUND - GRADE 8 PHYSICAL EDUCATION TEACHERS



Only 8% of the respondents reported having two or more university/college courses in Physical Education but less than the credits required for a degree in that specialty. The college and university courses which respondents reportedly have taken in the area of Physical Education were varied. Table 3.8 on page 47 lists the pre-service courses taken from most to least attended.

TABLE 3.8

PRE-SERVICE TEACHER TRAINING COURSES IN PHYSICAL EDUCATION

Frequency	Course Taken
77%	sports skills
62%	movement learning
62%	growth and motor development
61%	exercise physiology
60%	dance/movement
60%	health
56%	adapted physical education
34%	nutrition

In addition to pre-service training, the teachers at the Grade 8 level reported varied backgrounds of inservice-training in specialty areas within Physical Education. The Special Area Groups (SAG) in the province offer workshops in all the major specialty areas and have provided 76% of the respondents with their major source of inservicing in the last three years. Although these are by far the most widely-attended source of professional development activities, it must be kept in mind that this is only a once-yearly occurrence. The second most widely-attended workshops for Physical Education teachers at the Grade 8 level, and cited by 61% of them, are school division-sponsored workshops relating to Physical Education which are sporadic as well. Respondents were asked to list the professional development areas in which they have already participated, and then to indicate the three in which they wish to participate in future. (See Table 3.9 below).

TABLE 3.9

WORKSHOP PARTICIPATION - GRADE 8 PHYSICAL EDUCATION TEACHERS

Area	Have Participated	Wish to Participate
Quality of Daily Physical Education	45%	43%
Student Leadership	31%	41%
Physical Fitness	47%	39%
Student Evaluation	34%	29%
Physical Education in Affective Domain	27%	26%
Health-related Topics	47%	25%
Special Needs	27%	23%
Basic Movement Skills	39%	22%
Other (specific skill development)	7%	6%

Although nearly half of the respondents reported that they have been involved in workshops on the topics of Quality Daily Physical Education (QDPE) and on Physical Fitness, these focus areas continue to be of concern and/or interest for Physical Education teachers. Student Leadership workshops and those which focus on Student Evaluation are requested as a future focus by close to one-third of the respondents. These appear to be grasping teachers' attention more now than before.

A majority of the respondents (89%) have taken either a St. John Ambulance training program or a Red Cross First Aid course, and a further 72% have participated in CPR Certification programs. A total of 42% currently hold valid St. John Ambulance or Red Cross First Aid certificates while 32% reported that they hold currently valid CPR certification.

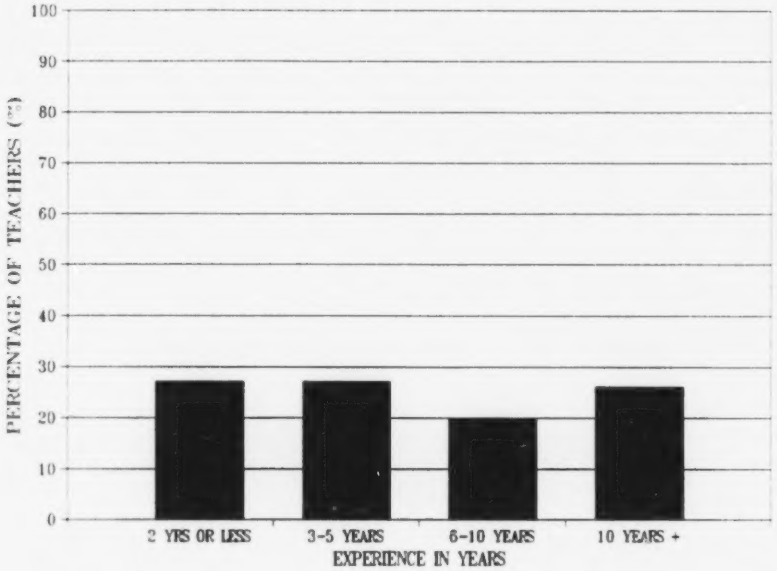
The teachers indicated participation in other professional development activities as well. Fifty-seven percent (57%) of the Grade 8 respondents reported reading professional journals; 40% reported attending NCCP Coaching certificate courses, and 27% attended Manitoba Education-sponsored workshops relating to Physical Education. Other sources of professional development, all of which were reported by fewer than 20% of the respondents, included college and university credit courses, and membership on PD or curriculum committees.

Teachers of Physical Education at the Grade 8 level reported a wide range of professional affiliations. The most widely subscribed-to membership (45%) is the MPETA (Manitoba Physical Education Teachers Association). Following these are CAHPER (Canadian Association of Health, Physical Education and Recreation) memberships at 16%, CIRA (Canadian Intermural Recreation Association) at 13%, and unspecified 'other' Provincial and national sports organizations at 14% .

The teaching experience reported by the teachers in the sample indicated fairly even distribution (See Table 3.10 on page 49). Those with more than ten years experience constituted 26%, those with 6-10 years 20%, those with 3-5 years 27%, and those with two years or less comprised 27% of the sample.

TABLE 3.10

YEARS OF EXPERIENCE - GRADE 8 PHYSICAL EDUCATION TEACHERS



Teaching experience ranged throughout all levels from K to 12, with 63% of the respondents reported teaching experience at the Grades K-4 level, 92% at the Grade 5-7 level, and 65% at the Grade 9-12 level (Senior 1 to 4).

3.3.2 Teaching Conditions

Respondents were asked to indicate some specific information about the schools to which they were assigned.[14] It appears that the majority (39%) of the respondents work in schools whose highest grade is 9, followed closely at 33% by those whose highest grade is 8. A total of 24% of the respondents work in schools that go to Grade 12. Schools which go as high as Grade 10 or Grade 11 were each reported by only 2% of the sample.[15]

Respondents were asked to indicate their current grade level assignments. Nearly three quarters of the group (70%) indicated that they are teaching single-grade classes. Nineteen percent (19%) of the sample who responded reported that they teach a multigrade class (7, 8, and 9). Split grades (7/8 and 8/9) combinations make up 8% and 7% respectively.

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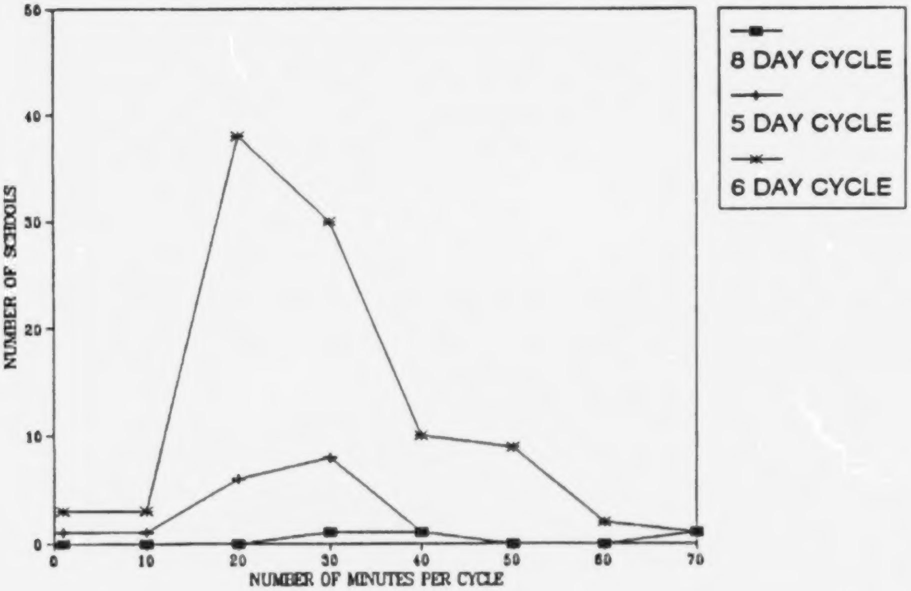
[14] Respondents working in more than one school were directed to answer all questions based on the school whose name was first in alphabetical order.

[15] Current terminology refers to Grade 8 as Middle Years, and Grades 9 through 12 as Senior 1-4 respectively.

Seventy-nine percent (79%) of the respondents indicated that their schools are on a 6-day cycle, and 18% are on a 5-day cycle. The number of minutes per cycle in which Grade 8 students are scheduled for Physical Education varied somewhat from one school to another, but some significant trends appear to be occurring. (See Table 3.11 below)

TABLE 3.11

NUMBER OF MINUTES PER CYCLE DEVOTED TO PHYSICAL EDUCATION



A minimum of 30 minutes per day of Physical Education class time has been recommended by Manitoba Education and Training. According to the recommendations, schools on a 5-day cycle would be expected to provide 150 minutes per cycle of Physical Education, whereas those on a 6-day cycle would be expected to provide 180 minutes, and so on. Based on the information received from the survey, it appears that the recommended time in Physical Education is provided by slightly more than 30% of the schools represented in the survey. In addition, nearly 14% of the schools represented report time which is below one-half the recommended levels.

Nearly half (48%) of the teachers responding to the survey reported teaching Physical Education to only one class of Grade 8 students, and 27% to two different Grade 8 classes. A very small percentage (2% or less) indicated that they teach between 5 and 8 different classes of Grade 8 students. Eight percent (8%) and 10% respectively reported teaching 3 and 4 different classes.

The data indicated that there was only slight variation in the size of Physical Education classes at the Grade 8 level, with 26 students being the largest and 21 students the smallest reported. Of the teachers responding, a significant 79% reported that **all** of their classes are co-ed in nature, and only 6% reported that **none** of them are. Fourteen percent (14%) reported that some of their classes are co-educational groups. Of the reasons for not having co-ed groups, the most frequently-cited reason is that males and females have interest in different activities. A few reported that they are in non co-ed schools. Very few (3 individuals) cited traditional role or discipline factors as reasons for not having co-ed classes.

Facilities – availability and use

Access to special facilities varied considerably from one situation to another, but most respondents reported making maximum use of the facilities available. Table 3.12 below illustrates these results.

TABLE 3.12

ACCESS TO/USE OF FACILITIES - GRADE 8 CLASSES

Facility	Access	Regular Use
Gym (1 or 2 teaching stations)	87%	99%
School Field	74%	72%
Outside/school Playground	73%	70%
Multi-purpose Room	73%	70%
Classroom Space	52%	17%
Off-site Facilities	51%	25%
Weight Room	20%	14%
Mini-gym	8%	8%

Gymnasiums (combining both 1 and 2 station facilities) are the most accessible facility for teachers and students at this grade level, although surprisingly 12% more teachers at this level use them than reportedly have them.[16] School fields and school playgrounds are also available to a large majority, approximately three-quarters, of teachers.

Multi-purpose rooms are available to over three-quarters of the grade 8 teachers, and almost all of them use these regularly. Off-site facilities are reportedly available to slightly over one-half of the respondents but used by only one quarter of them. Although mini-gyms are reportedly accessible to only 8% of the respondents, all of those who have access to them report making use of the facility. This is not true for classroom space, which is accessible to more than half of the teachers, but made use of by only 17% of them.

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[16] Some schools may have reported no access because they have no facility in their building. They may, however, have access under shared-facility arrangements with another building.

First Aid Kits, convenient change areas, and office spaces are available to approximately three-quarters of the grade 8 respondents. Convenient showers, telephones, water fountains, and adequate storage areas are available to half of them. Stretchers, even though not mandatory, are available to 13% of the respondents at this grade level.

3.3.3 Methodology

Curriculum Guide – availability and use

Almost all (97%) of the respondents reported that they have a copy of the 1981 *Manitoba Physical Education Curriculum Guide (K-12).* Of these, 68% use the document as a reference, and 11% reportedly base their programs on it. The remaining 12% reported that they do not use the guide at all.

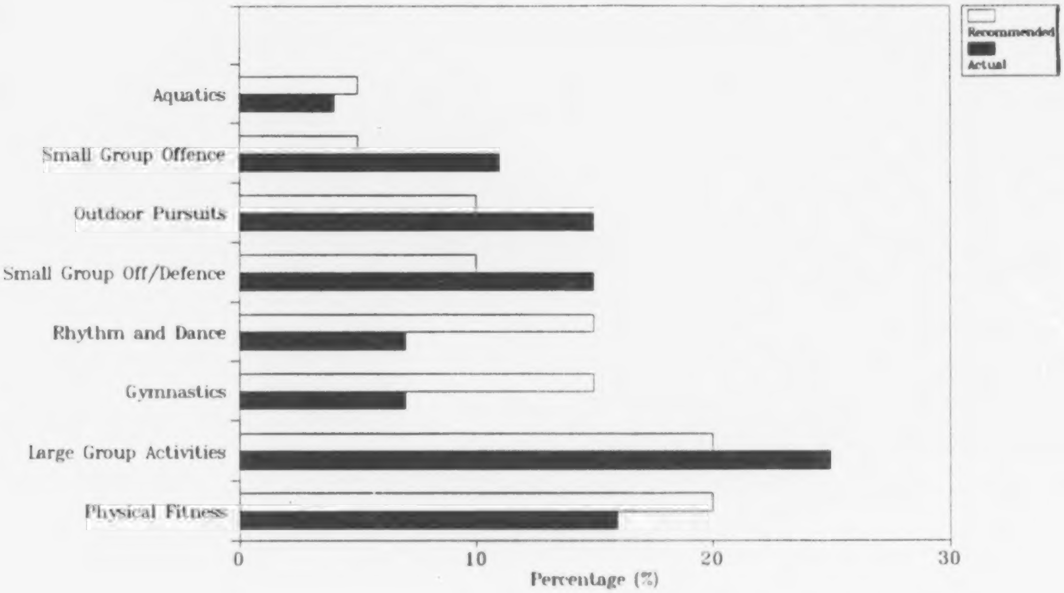
At the grade 8 level, different sections of the curriculum were reportedly used to varying extents by the respondents, but some clear trends are noted. Activity suggestions and learning goals are the most widely-used aspects, at 82% and 81% respectively. Use of objectives was reported by 79% of the respondents, with sub-objectives and curriculum support documents being used by 70% and 68% respectively.

Curriculum Emphasis

Respondents were asked to indicate the percentage of time spent in their programs on various areas of the curriculum. The results (illustrated in Table 3.13 on page 53) show relatively strong emphasis (25% on average) in the area of Large Group Offensive and Defensive Activities. Physical Fitness, Outdoor Pursuits and Small Group Offensive and Defensive Activities follow at 16%, 15% and 15% emphasis respectively. Less than 10% emphasis, on average, is placed on the areas of Rhythm and Dance, Gymnastics and Aquatics.

TABLE 3.13

ACTUAL AND RECOMMENDED CURRICULUM EMPHASIS - GRADE 8 PHYSICAL EDUCATION



Reasons for the de-emphasis of different parts of the curriculum were varied for the respondents of the grade 8 teacher survey. Table 3.14 on page 54 lists the areas of de-emphasis with the reasons for this, and the percentages of teachers articulating these reasons. The single most often-cited reason is lack of facilities, reported to affect to a great extent, the delivery of Aquatics. Lack of facilities does not seem to affect any other areas to any significant degree.

Lack of training was seen as a limiting factor by over half (53.5%) of the respondents. This concern is reportedly a significant reason for the de-emphasis of Gymnastics and Rhythm and Dance. Programming considerations, such as overlap with other curricula, or lack of interest in the subject, caused problems for 32% of the respondents, most of which affected the delivery of Rhythm and Dance.

TABLE 3.14

REASONS FOR CURRICULUM DE-EMPHASIS – GRADE 8

REASON	CURRICULUM AREA Percentage of respondents citing each reason*				
	GYM-NASTICS	RHYTHM & DANCE	AQUATICS	OUTDOOR PURSUITS	SMALL GROUP OFFENSIVE/ DEFENSIVE
Lack of training	24.3	29.2	0	0	0
Lack of equipment	20.4	0	0	1	1
Lack of facilities	4.9	5.8	61.2	1	0
Lack of funds	0	0	19.4	1	0
Program considerations	4.9	21.4	4.9	0	1
Logistical problems*	6.8	0	15.5	3.8	4.9
Religious prohibitions*	0	24.3	0	0	1.9
Legal considerations	13.6	0	0	0	0

*'Logistical problems' refers to logistical problems such as those regarding facility use, transportation, or timetabling.
'Religious prohibitions' refers to any prohibitions which may arise from values associated with religion or philosophy.

Logistical aspects such as timetabling, length of period, and other organizational concerns, were viewed as a problem in nearly one-third of the cases, but affected only aquatics to any great extent. Prohibitions due to religious, ethnic or philosophical beliefs resulted in significant program de-emphasis in the area of Rhythm and Dance. Legal concerns regarding liability and/or possible injuries caused de-emphasis only where Gymnastics was concerned.

Curriculum Delivery

Team teaching is practiced for *all* classes by one-fifth of those who responded. A total of 73% of the respondents indicated that they teach *some* of their classes in this fashion, but only 1% reported that *none* of their classes are taught with a partner. Theory is reportedly taught as an integrated component by 86% of the Grade 8 teacher respondents, and as a separate component by only 16% of the respondents. Student Leadership training is a part of only one-fifth of the programs represented.

Emphasis on subject integration has become a practice encouraged in many of the new curricula. Although 30% of the respondents did not answer this particular item, all the other respondents reported that they *do* integrate concepts from other curriculum areas into the Physical Education program. Table 3.15 below illustrates the curriculum areas most frequently integrated into Physical Education instruction. A separate item asked respondents to indicate the extent to which they integrate Health with Physical Education. These figures are included in Table 3.15 as well.

TABLE 3.15

INTEGRATION OF OTHER SUBJECTS WITH PHYSICAL EDUCATION

Curriculum Area	Percentage of Frequency	Degree of Integration
Health	61%	7% - great extent 32% - moderate extent 22% - limited extent
Science	27%	—
Mathematics	22%	—
Language Arts	20%	—
Music	17%	—
Social Studies	11%	—
Art	4%	—

Respondents were asked to list how frequently per cycle various activities and techniques were used during Physical Education class. The results show that 'student choice of activity' is used intensely by the highest percentage of respondents. This is used each week or cycle by one seventh of the respondents, and a few times a month by an additional 48%. Students performing for others is reportedly never used by 32% of all Grade 8 teacher respondents.

Use of co-operative activities was compared to use of competitive activities, and the results show a significant difference in the use of these two approaches. Co-operative activities appear to be only slightly more frequently used overall than competitive ones. However, respondents who reported making 'extensive' use of co-operative activities were twice as numerous as those who emphasized competitive activities to the same extent. Furthermore, all the respondents reported using co-operative activities to at least some extent, whereas 2% of the teachers reported using no competitive activities at all. (See Table 3.16 on page 56)

TABLE 3.16

EMPHASIS ON CO-OPERATIVE vs COMPETITIVE ACTIVITIES

Extent of Use	Co-operative Activities	Competitive Activities
Used to a Great Extent	48%	24%
Used to a Moderate Extent	36%	50%
Used to a Limited Extent	14%	21%
Not Used at All	0%	2%
No Response	2%	3%

A little over one-quarter (28%) of the respondents reported teaching Physical Education to students with disabilities. Of those who do, half indicated that although they currently receive training in appropriate areas, they continue to require more. Administrative support (in the form of time for PD, money for substitutes and/or equipment etc.) continues to be required by 39% of the teachers, although it is currently received by 100% of them. All of the respondents who teach students with disabilities reported that they receive help from teacher aides or assistants while in the gym, and half of them continue to require this assistance.

Developing an Individualized Education Program (IEP) is often a component of working with students with disabilities. The results from this survey indicated that, of the respondents who teach students with disabilities at the grade 8 level, nearly three-quarters (72%) are involved, to some extent, in the development of IEP's, although a portion of them (19%) reported being only 'rarely' involved. Over one-quarter (28%) of the respondents who teach students with disabilities reported 'never' being involved in the development of IEP's.

Evaluation and Assessment

The greatest emphasis in the area of student assessment at the Grade 8 level appears to be in the area of behavior, participation and effort, emphasized *to a great extent* by 85% of the respondents, and with *moderate emphasis* by 13% of them. Physical fitness is a distant second place focus for assessment, emphasized *to a great extent* by 23% of teachers and to a *moderate extent* by 52% of them. The third most emphasized focus area for student assessment is in psychomotor or basic movement skills. Only 12% of the respondents indicated that they emphasize this area *to a great extent*, and 64% *to a moderate extent*. The area least concentrated on for student assessment appears to be the area of knowledge and understanding of concepts. Great emphasis is reportedly given to this focus by only 9% of all respondents, and *moderate* or *little emphasis* by 63% of them.

Types of assessment used for student evaluation in the grade 8 program vary greatly, although, according to the results, teacher observation is by far the most popular, reportedly used by 96% of the teachers surveyed. Nearly three-quarters (72%) of those responding indicated that they use fitness tests to evaluate student performance, and over half use skill tests or written theory tests. Student self-assessment is reportedly used by one-quarter of the respondents at this level. Peer assessment is used by only 17% of the teachers responding, and a category listed as 'other' is used by 6% of the respondents, although the types of assessment in this category were unspecified.

Reporting to parents on student progress is also done in a wide variety of ways at the grade 8 level. Sixty-seven percent (67%) of the teacher respondents reported using letter grades for the purpose of reporting to parents. Written anecdotal reports are reportedly used by 43% and percentage marks by 37% of the teachers at this grade level. Verbal anecdotal reports were reported by 27% of the teachers responding, and fitness profiles make up part of the reporting method for 20% of those responding. Skills check lists are reportedly used by only 7% of the grade 8 teachers.

Liability Concerns

Teachers responding to the grade 8 survey were divided almost equally between "yes" and "no" (48% vs 47%) on the question of whether or not there were any facilities or equipment that they failed to use because of safety or liability concerns. By far the most widely reported equipment left unused due to safety considerations were those normally associated with gymnastics. Thirty one (31) of the respondents (roughly 25%), identified the high beam as high risk equipment for gymnastics. Trampolines, ropes, vaulting boxes, and other equipment associated with gymnastics were also reported as potential safety risks by a small proportion (under 15%) of respondents.

3.3.4 Co-curricular Activities

Respondents at the grade 8 level reported that they utilize community facilities regularly for Physical Education. Skating rinks are the most popular of the off-site facilities, reportedly used by 44% of the respondents. Curling rinks are the next most popular, reported by 30% of the teachers at this grade level. All other facilities are used by 20% or less of the respondents. (See Table 3.17 on page 58).

TABLE 3.17

USE OF COMMUNITY FACILITIES

Skating rinks	44%
Curling rinks	30%
Parks	20%
Swimming pools	18%
Tennis courts	17%
Ski areas	16%
Golf courses	12%
Bowling alleys	12%
Racquet clubs	6%
Fitness centres	5%
Roller rinks	3%
Dance studios	1%

Respondents were asked to indicate which co-curricular activities are available to students during the school year. Intramural and Inter-scholastic sports for both males and females were the most widely identified, each indicated by 80% of the respondents. Sports clubs followed at 55% and co-ed inter-scholastic sports activities was next at 36%. Student leadership programs constitute only 16% of the co-curricular activities identified.

3.4 Highlights of Grade 8 Results

In general, the Grade 8 assessment results indicated that:

- students at the Grade 8 level have positive attitudes towards Physical Education and physical activity in general. Males show greater enjoyment of physical education classes than do females;
- the majority of students become involved in physical activity for fun, self-improvement and/or skill development; both males and females show good knowledge of sports facilities in their community, with males showing greater tendency than females to become involved in community sports activities;

- in the cognitive areas, males and females demonstrate equal performance; overall, they show good mastery of physical education concepts, particularly in the area of nutrition, weight management, and the inter-relationships among exercise, body mass and weight control;

- in the affective areas, some noticeable gender-specific differences are apparent in self-expression activities and in respect for rules of fair play; the students at this level have a good understanding for, and acceptance of, fair play practices; females show greater adherence to the rules of a sport than males and show a greater tendency to engage in fair play practices;

- generally one half of the test population meets the criterion levels for Manitoba Fitness in the area of cardiovascular endurance; fitness levels are generally lower than the *Manitoba Schools Fitness Criteria* (1989); males are generally competent in the neuromuscular skills areas, although kicking is generally a weak area overall; females show a definite lack in neuromuscular skill development, especially manipulative skills;

- knowledge of procedures relating to First Aid handling of head and neck injuries is poor;

- the majority of students at this level are taught Physical Education in co-ed classes;

- there is a reasonably good influx of new teachers at the grade 8 level which balances those leaving this level; there continues to be a good balance between new and well-experienced teachers of Physical Education;

- most of the inservicing in Physical Education appears to be done by either the individual School Divisions or by Manitoba Education and Training with SAG conferences in the lead;

- although teachers claim that students are given wide choice of activities in Physical Education class, students report that they are given little choice;

- co-operative sports and activities are emphasized to a greater extent than competitive sports and activities;

- approximately one-third of Physical Education teachers at the grade 8 level have inadequate training for their assignments; a fair number of teachers have classroom responsibilities other than Physical Education;

- aquatics is one of the curriculum areas most de-emphasized due to the lack of facilities; gymnastics is another due to lack of appropriate training; and rhythm and dance due to lack of training and program considerations;

- there appears to be some integration of other subject areas into Physical Education; health is the most widely integrated even though there is no indication of the content integrated into Physical Education;

- teachers are generally satisfied with the facilities available for the teaching of Physical Education;
- only about one-third of the schools represented in the survey offer the recommended amount of time for Physical Education with about 14% offering less than half the recommended time;
- among the teachers who teach Physical Education to students with disabilities, a little over one-quarter of them are not involved in the development of IEP's;
- teacher observation is the most widely practised method of assessing student progress in Physical Education; behavior, participation and effort are the most emphasized areas in reporting to parents; skills, fitness and knowledge of concepts receive little emphasis in the overall evaluation of student progress.

3.5 Conclusions and Recommendations—Grade 8

The Technical Advisory Committee for the Grade 8 Physical Education Assessment makes the following recommendations based on the results obtained from the student performance test, the student written test, and the teacher questionnaire. The letter(s) which appear(s) immediately after each recommendation indicate(s) the primary responsibility for that recommendation, since there could be overlapping responsibilities. In each case responsibility is directed to one or more of the following:

Manitoba Education and Training	**M**
School Divisions/Schools	**S**
Teachers	**T**
Faculties of Education	**F**

Whereas fitness and skill levels were generally lower than the *Manitoba Schools Fitness Criteria* (1989) and it was found that a significant proportion of the schools do not provide the recommended time allotments for Physical Education, it is recommended that:

1. **a concerted effort be made to enforce the recommended minimum time allotments set by Manitoba Education and Training. (S,M)**
2. **creative methods of timetabling be examined in order to provide adequate time for QDPE (Quality Daily Physical Education). (T,S)**

In view of the fact that females appear to prefer small group activities, activities done with music, and activities which use smooth and graceful movements, and that males prefer competitive activities and activities which focus on speed and agility, it is recommended that:

3. **creative methods of program delivery be examined in order to address the specific interests/abilities of the male/female populations. (T,S)**

4. **additional research be carried out on the disparity between male and female skill levels. (M,S)**

5. **students be provided with a balanced program of activities and experience which will lead to additional sports pursuit choices in later life. (T)**

6. **consideration be given to scheduling some same-sex classes since there are instances in which it is more effective to work with non co-ed groups. (S,T)**

Whereas there is an indication of weakness in student knowledge related to fitness terminology and the *Manitoba Physical Education Curriculum Guide K–12* does not address this specific issue, it is recommended that:

7. **more use be made of the *Manitoba Schools Fitness Criteria* (1989) teacher support document which will assist teachers in their delivery of specific areas such as nutrition, and which will give them additional teaching strategies plus information on principles of training. (T,S,M)**

8. **additional inservicing be provided on the implementation and use of the *Manitoba Schools Fitness Criteria* (1989) support document. (S,M)**

9. **additional integration be encouraged between Physical Education and other subjects areas such as Health and Social Studies or Science. (S,T)**

10. **Manitoba Education and Training undertake a review of the 1981 *Physical Education Curriculum Guide K-12* to ensure relevance and consistency. (M)**

Whereas a significant number of areas of the curriculum are being de-emphasized (e.g., aquatics; gymnastics), it is recommended that:

11. **the curriculum be re-examined with regard to proportion of curriculum focus and content. (M)**

In light of the reasons given for de-emphasis of curriculum areas (e.g., lack of training, lack of equipment, etc.), it is further recommended that:

12. **training be provided for pre-service teachers in accordance with the Manitoba Physical Education curricula. (F)**

13. **inservicing in deficit areas be developed for teachers currently in the field. (S,M)**

14. **regular maintenance and inspection of facilities and equipment be continued to ensure safety and greater utilization in instruction.**

Given the fact that a number of teachers are requesting various workshops on Physical Education topics, a significant number of teachers do not have adequate training for their assignments, many teachers request support documents and suggest a curriculum review, it is recommended that:

15. **Manitoba Education and Training maintain a full-time Physical Education consultant to co-ordinate research, projects, professional development and networking. (M)**

16. **the feasibility of maintaining Physical Education support staff at the Divisional levels be considered. (S)**

17. **the hiring of trained, qualified Physical Education graduates be encouraged. (S)**

Whereas inherent in physical activity is the potential for injury and possible liability, and a large proportion of teachers report not having up-to-date certification in First Aid procedures, it is recommended that:

18. **all Physical Education graduates be required to have up-to-date CPR and First Aid certificates at graduation. (F)**

19. **on-going inservicing in the areas of CPR and First Aid procedures be provided so teachers may update training and certification. (S,M)**

Whereas over one-quarter of the teachers who teach students with disabilities report that they are not involved in the development of Individualized Education Programs (IEP's), and since many of the students with disabilities could benefit from modified Physical Education programs, it is recommended that:

20. **school administrators and student support teams make an effort to include Physical Education teachers in the development of student IEP's. (S)**

Given the fact that the majority of teachers evaluate their students mostly on behavior, participation and effort and student evaluation has been identified as an area of great need for inservicing, it is recommended that:

21. **Faculties of Education review their teacher preparation programs to ensure adequate treatment of student evaluation. (F)**

22. **ongoing inservicing be provided for teachers to enhance their evaluation practices. (M, S)**

CHAPTER 4

GRADE 11 RESULTS OF PHYSICAL EDUCATION ASSESSMENT

The Grade 11 Physical Education Assessment 1993 consisted of a written test, performance test and teacher survey. The performance test was designed to provide information on student fitness. The written test provided information on student knowledge and understanding of Physical Education concepts and on student attitude towards and opinion of Physical Education. The teacher survey was designed to provide information on teacher preparation and background, materials and resources, instructional activities, and facilities and organizational arrangements.

The results have been organized in the following Chapter according to the learning goal and content area categories from the 1981 *Manitoba Physical Education Curriculum Guide (K-12)*. For the convenience of the reader, the categories are listed below.

Learning Goal	**Content Area**	**Heading in this Report**
1	Develop Physical Well-Being	Fitness
2	Develop Desired Movement Patterns Through the Neuromuscular System	Skills
3	Express Ideas, Thoughts, and Feelings with Confidence Through Physical Activity	Self-Expression
4	Develop an Independence in Pursuing Physical Activity Throughout Life	Independence
5	Develop Safety and Survival Practices	Safety
6	Develop Positive Social Interactions Through a Variety of Physical Activities	Social Interaction

4.1 Performance Test Results

4.1.1 Overview

The performance component was designed to address the curriculum objectives which are psychomotor in nature. A sub-sample of students from the written test sample was randomly selected to participate in this portion of the assessment. Students with medical or physical conditions which would prohibit their participation were excluded.

A total of 85 students (49 male and 36 female) participated in the Grade 11 Physical Education performance test. The test consisted of activities that assessed fitness only, and was conducted in two parts — Part A which was administered by the Physical Education teacher in the school, and Part B which was administered by a team of teacher-testers who had been specially trained by staff of Curriculum Services, Manitoba Education and Training to administer the test. Administration of both parts of the test was carried out according to a specified test protocol to ensure inter-rater reliability[17], and to ensure that students left the testing situation with a sense of accomplishment. All students were given a 3-4 minute warm-up period before the start of each testing session.

The results of the fitness subtests (Tables 4.1a and 4.1b) show the average scores for the test population. In addition, they compare student performance to the desirable level (fitness criteria) as outlined in the *Manitoba Schools Fitness Criteria* (1989) document which supplements the 1981 *Manitoba Physical Education Curriculum Guide* (K-12).

The results have been reported by gender since the fitness criteria in most areas differ for males and females according to the *Manitoba Schools Fitness Criteria* (1989) curriculum supplement.

TABLE 4.1a

FITNESS RESULTS — MALE (Grade 11)

Fitness Subtest	**Student Performance**					**N = 49**
	Average	**Maximum**	**Minimum**	**At or Above Average %**	**Below Average %**	**Criteria & % Pass***
1600 m Run	7:26 mins.	10:23 mins.	5:27 mins.	59.2	40.8	≤8:00 79.6%
Push-ups	27	50	1	38.8	61.2	≥20 63.3%
Sit & Reach	33 cm	50 cm	7 cm	53.1	46.9	≥30 cm 67.3%
Curl-ups	42	68	2	59.2	40.8	≥43 46.9%

***Based on the *Manitoba Schools Fitness Criteria* (1989)**

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[17] Inter-rater reliability refers to the consistency with which the same test or observation is evaluated by a number of different testers.

TABLE 4.1b

FITNESS RESULTS — FEMALE (Grade 11)

Fitness Subtest	**Student Performance**					**N = 36**
	Average	**Maximum**	**Minimum**	**At or Above Average %**	**Below Average %**	**Criteria & % Pass***
1600 m Run	10:05 mins.	13:17 mins.	6:09 mins.	72.2	27.8	≤9:30 38.9%
Push-ups	10	24	2	27.8	72.2	≥15 16.7%
Sit & Reach	34 cm	45 cm	16 cm	52.8	47.2	≥30 cm 63.9%
Curl-ups	31	47	5	50.0	50.0	≥37 27.7%

***Based on the *Manitoba Schools Fitness Criteria* (1989)**

4.1.2 Fitness

Fitness performance tests demonstrated a variety of trends among the Grade 11 students in this sample. Cardiovascular endurance was evaluated on the 1600 m run, in which males achieved an average completion time of 7 minutes 26 seconds, and females achieved an average time of 10 minutes 5 seconds. Range for males was from 5 minutes 27 seconds to 10 minutes 23 seconds, compared to females' 6 minutes 9 seconds to 13 minutes 17 seconds. Criterion for acceptable performance, based on the *Manitoba Schools Fitness Criteria* (1989) criteria, was achieved by close to 80% of the males and 39% of the females.

Muscular endurance was measured by performance of both Curl-ups and Push-ups. The difference in muscular endurance overall was most significant in Push-ups, where 17% of the females, compared to just over 63% of the males achieved an acceptable level of performance, based on the *Manitoba Schools Fitness Criteria* (1989) criteria.

Females performed somewhat better on Curl-ups than on other areas, but their overall performance was slightly lower than that of males. In Curl-ups, nearly 47% of males and 28% of females scored at or above the *Manitoba Schools Fitness Criteria* (1989).

Females demonstrated higher performance than males in the area of flexibility, evaluated on the Sit and Reach task. Range for males on this task was from 7 cm to 50 cm, with an average of 33 cm. Among females, the range was somewhat narrower, from 16 cm to 45 cm with an average of 34 cm. *Manitoba Schools Fitness Criteria* (1989) level was achieved or surpassed by 67% of males and 64% of females.

4.1.3 Summary of Performance Test Results

A greater proportion of the male population met the fitness criteria established by the *Manitoba Schools Fitness Criteria* (1989) as compared to their female counterparts. Females demonstrated fair performance in flexibility and performed slightly better than their male counterparts in this area.

4.2 WRITTEN TEST RESULTS

4.2.1 Cognitive Items

Student knowledge of cognitive areas of Physical Education was assessed by means of a written test which was completed by a total of 668 students (361 male; 303 female)[18]. Mean performance on the cognitive questions (Items 115 through 154) are reported in Table 4.2 below.

TABLE 4.2

MEAN SUBTEST SCORES (Grade 11)

Learning Goal	Maximum Score Possible	Mean Raw Score	Mean Percentage	Standard Deviation Raw Score
Fitness	29	20.16	69.53	4.74
Skills	5	3.71	74.16	1.06
Independence	5	3.70	73.92	1.23
Safety	1	0.47	47.46	0.50
TOTAL	40	28.04	70.11	6.02

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[18] There were 4 students who failed to indicate gender on their test papers.

4.2.1.1 Fitness

Students demonstrated very good to excellent knowledge of the components of physical fitness, and there was evidence that they had basic understanding of the various principles of exercise with their relationship to the maintenance of acceptable fitness levels. Knowledge of the related terminology related to fitness was also well demonstrated by students.

In general, there was excellent understanding of the effect that cardiovascular activity has on heart-rate and of the necessity to use a cool-down period. Respondents also seemed well aware of the fact that the distance run would be the most effective check of an individual's cardio-vascular endurance. Students were less able to categorize jogging as an aerobic exercise, and nearly one-fifth of the group may have been confused by the term 'anaerobic'. Fewer than one-half of the students were aware that an efficient cardiovascular system is one in which the heart rate returns quickly to normal after strenuous activity.

Students were somewhat weak in their understanding of the importance that good posture plays in healthful living and appearance. Nearly half of the respondents were unaware that weak abdominal muscles contribute to poor posture, and over 21% were under the assumption that weakness in the abdominal muscles would make one less flexible.

Nearly three-quarters (71.4%) of the student respondents were aware of why protein is important in the diet, and a little over half (54%) correctly reported that they felt the best strategy for losing weight was to lower caloric intake and to increase activity level. Some gender differences were again noted on these topics. Females indicated superior knowledge on the content pertaining to nutrition and weight management. They scored an average of approximately 10% higher overall than males on the knowledge of primary nutrients of the basic food groups, and on questions pertaining to the importance of a balanced diet and to weight management. Males, on the other hand, responded correctly almost twice as often as females (42.9% vs 22.8%) on a question regarding the increase of muscle mass. The item was nevertheless poorly done, with only 33.7% of the total sample responding correctly.

4.2.1.2 Skills

The principles of motor learning were found to be very well understood. The majority of both males and females were aware of the correct way to throw a ball, to run and to kick a stationary ball.

Responses indicated that the students in the sample have a good understanding of the progressions which can be used in the learning of a new skill. Over 80% of the students were aware that the way to hit a moving target was to aim ahead of it, and over half of them were able to correctly identify, from easiest to most difficult, the sequence of skills associated with the badminton serve. There were no significant gender differences in this area.

4.2.1.3 Independence

Students were asked to choose from a list of given "lifetime activities", three for which they could name a specific facility in their community where they could obtain information or participate.

The majority of the students were able to name a local facility at which they could participate in their chosen sports. Table 4.3 below indicates the frequency with which community facilities was identified.

TABLE 4.3

STUDENT IDENTIFICATION OF COMMUNITY-BASED FACILITIES
(Grade 11) N = 668

Activity	Frequency
Swimming	318
Golf	268
Ice Skating	239
Bowling	194
Downhill Skiing	174
Weight Training	131
Tennis	114
Aerobics	96
Racquetball	76

Swimming was the most frequently listed, with almost half of the respondents being aware of a specific facility where they could participate in it. Golf, ice-skating and bowling facilities were also identified by a significant number of respondents.

Participation in community-based sports requires good understanding and practice of appropriate behavior and etiquette, and students indicated good understanding of the importance of participating in the community with a sense of responsibility, confidence and belonging. Over half of them were able to correctly identify the behavior and etiquette expected when using community facilities, although indications from the responses showed that females would likely adhere better than males to rules when participating in community activities. Twelve percent (12%) more females than males correctly identified the proper procedure to use when awaiting their turn on a public tennis court. Males were three times more likely than females to dispute a call made by an opponent in an unofficiated game, and were less eager than females to accept the opponent's offer to re-play the point.

Although a fairly high proportion (45.8% overall) of both males and females indicated incorrectly that the spectators should be consulted to make a decision on the disputed point, there were nearly twice as many females in this group as males.

4.2.1.4 Safety

On the basis of the one item testing knowledge in the area of safety and survival, the students in the sample did not demonstrate an adequate grasp of these practices, although formal instruction in First Aid and Safety areas had been reportedly received, both in school and out, by many of the group. Fewer than half of the respondents (47.5%) answered correctly that one should first check the breathing when examining an unconscious person; an almost identical number (47.6%) responded incorrectly that the pulse should be checked first.

4.2.1.5 Summary of Cognitive Test Results

Students demonstrated strong knowledge of the skill requirements for various sports and guidelines for healthful living. Students seem to have a good grasp of the concepts surrounding fitness and its components. Weaknesses were shown in data interpretation, especially in reading and interpreting a fitness chart. This was of concern to the Technical Advisory Committee since this type of activity is an ongoing expectation across grade levels and across subject areas. Weaknesses were also evident in the areas of nutrition and in the knowledge of terminology related to topics such as aerobics and cardiovascular fitness.

4.2.2 Affective Items

4.2.2.1 Fitness

There were virtually no gender differences in relation to the knowledge factors surrounding fitness and exercise, but when the respondents were asked to rate their own levels of physical fitness, some differences between male and female respondents were clearly indicated. Although more than half (58.8%) of the students rated their fitness levels as average, nearly three times as many males as females reported their levels as high, and one fifth more females than males reported their fitness levels as only average. Several students were unsure about their fitness levels.

Responses indicated that Grade 11 students do not make much use of fitness test results in order to plan activity programs for themselves. A meagre 6.4% of all the respondents reported using the results *to a great extent*, and only a little over one quarter of them use the results *to some extent*. A total of 34.2% of the students reported not using the results at all. There were notable gender differences in these data. It was found that 40.4% of males, as compared to 27.4% of females, reported using test results at least to some extent in planning their fitness programs.

Student respondents showed excellent appreciation of the importance of posture. Nearly all (92%) of the students felt that posture was important for healthful living and appearance and not simply related to appearance or old age.

4.2.2.2 Skills

Part of the skill learning at this level includes the observation and analysis of performance of various skills. Over 80% of the students reported having the opportunity, at least part of the time, to observe and analyze the performance of others during Physical Education classes. Seventy-three percent (73%) reported that they are given the opportunity to observe and analyze the teacher's performance of skills which are being learned.

Observation and analysis of performance of new skills was reportedly of varying use to the respondents. The observation of the performance of other students was reported as *very useful* and *somewhat useful* by 45.2% and 46.7% respectively. Observing the performance of the teacher was reported as slightly less useful, being reported as *very useful* or *somewhat useful* by 38.3% and 44.8% respectively. A notable proportion of students at this grade level (62.1%) reported that they are *rarely* or *never* given the opportunity to view videotapes of their own performance in order to analyze their development of new skills [19]. A total of 37.5% of the respondents reported that they had never participated in self-observation through the use of video feedback, and of those who had, over 40% found the exercise *very useful* and 44% found it *somewhat useful*.

Respondents were asked to indicate in which sports activities they had received formal instruction in school. They were also asked to identify those sports in which they had *never* participated. The results, illustrated in Table 4.4 on page 71, indicate the highlights of student responses. Badminton and swimming appear to be the activities in which most students overall have received formal instruction. All but a handful of students (0.4%) have received instruction in badminton, most of which has been in school. Swimming is also an activity in which a majority (over 96%) of students have received formal instruction, but in this case, the majority of the instruction has taken place outside of school. Approximately 70% of the students at this level, including both males and females, participate in cycling and skating, but a very small percentage has received formal instruction in either of these activities in school.

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[19] The Technical Advisory Committee felt that both time and lack of availability of video equipment may account for the limited use of this activity.

TABLE 4.4

INSTRUCTION IN SPORTS IN AND OUT OF SCHOOL – GRADE 11

Sports	Percentage Instruction In School	Percentage Instruction Out of School	Percentage Instruction Both	Percentage Never Participated In
Badminton	71.0	3.0	25.0	0.4
Swimming	4.8	61.4	30.1	3.1
Skiing	23.7	29.5	38.9	7.2
Skating	4.5	66.9	20.5	7.6
Cycling	3.9	70.5	14.8	10.2
Bowling	21.0	44.3	24.0	10.2
Weight training	33.7	16.9	33.2	15.2
Tennis	26.9	30.4	26.2	15.5
Archery	45.4	17.1	19.2	17.5
Aerobics	30.8	17.9	17.0	33.2
Martial arts/ self-defence	12.5	28.3	2.1	55.7
Weight training	33.7	16.9	33.2	15.2
Racquetball	36.2	13.3	10.1	38.9
Curling	27.9	15.1	20.9	35.5

Approximately one-third (33.2%) of the population had never tried aerobics[20] (most of the 33% of students who had never participated in aerobics are male). Almost all of the females (90%) reported having received formal instruction in this activity in and/or out of school. Approximately half of the males participate in martial arts, and nearly all of those who do, participate in it out of school. Only one-third of the females participate in martial arts, more than 50% of whom participate in it at school. Weight training at school is popular among females where the nearly 34% overall participation level is made up of twice as many females as males. In contrast the 33.2% of students participation in weight training out of school is made up of twice as many males as females.

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[20] It is difficult to ascertain whether students responding to this item were answering to 'aerobic dance' or 'aerobic activities' which could include running, skipping, etc., since no qualifier was stated in the item.

The physical activities least attempted by both males and females were the martial arts/self defence activities, of which over 55% of the respondents have never tried. Racquetball, reported as never tried by 38.9% of the group was next in line, with curling following close behind, reportedly never tried by 35.5% of respondents.

4.2.2.3 Self-Expression

Over half (61.3%) of the respondents reported that they are *rarely* or *never* given the opportunity to express ideas or thoughts about the Physical Education program in their classes.

Students at this level indicated a significant gender-specific split in their attitudes about taking part in physical activities which have 'beautiful and graceful' movements. More than twice as many females as males, comprising a total of only 22.7% of the total, indicated a very positive attitude toward this type of activity, and reportedly only 8.6% of the respondents report *often* viewing videotapes of these activities, while an additional 27.1% view them *sometimes*.

The results showed that 70.3% of the respondents have never had the opportunity to see national or professional athletes or dancers perform at a school activity, and many indicated that they do not have the opportunity to view videotapes on these.[21]

Students reported that most frequent use of music in class is made during dance activities. Music is apparently used fairly frequently for running activities and for work-outs, but games were indicated by the largest percentage of students as an activity which is never done to musical accompaniment during Physical Education classes.

It is noteworthy that 31.8% of the students are *often* or *sometimes* involved in creative expression given the options available in the Physical Education program. Females are involved in this type of activity somewhat more frequently than males.

4.2.2.4 Independence

In order to assess student understanding of the need to pursue physical activity in a variety of settings through life, respondents were asked to rate the relative importance of various reasons for participation in a number of sports activities. Student responses were recorded on a four-point scale from *very important* to *not important*. Table 4.5 on page 73 shows the contrast of male-female responses for the *very important* vs the *not important* categories.

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[21] It was the feeling of the Technical Advisory Committee that there are time-tabling difficulties that restrict these opportunities. In addition, cost and availability factors may be restrictive as well.

TABLE 4.5

REASONS FOR PARTICIPATION IN ACTIVITIES - GRADE 11

VERY IMPORTANT	Percentage of Males	Percentage of Females	Percentage Total
Fun or excitement	59.6	61.4	**60.3**
Health/fitness	46.8	49.5	**48.1**
Personal Achievement	38.0	35.0	**36.7**
To feel better	27.7	33.3	**30.2**
Skill Development	34.6	16.5	**26.3**
Socialization	27.1	23.8	**25.6**
Relaxation/reduce stress	21.3	18.8	**20.4**
Competition	22.4	11.6	**17.5**
Weight Control	11.4	26.1	**18.1**
NOT IMPORTANT	**Percentage of Males**	**Percentage of Females**	**Percentage Total**
Competition	17.5	29.4	**22.9**
Weight control	30.2	13.2	**22.5**
Credit	18.8	17.8	**18.4**
Stress control	16.1	8.9	**12.9**
Socialization	8.9	6.6	**7.9**
Skill Development	5.0	7.9	**6.4**

The most often-cited reason overall for participating in physical activities is for fun or excitement (60.3%), and there is virtually no gender difference indicated. Health/fitness is the second most popular reason, reported by over 48% of the respondents. Personal achievement is the third most often reported reason for participation, followed by the wish to feel better. Socialization is very important to somewhat more than one-quarter of the students, the greater proportion of whom are males.

A number of further gender differences were noted. The reason for participation listed as *not important* by the largest number of respondents is competition. Interestingly, many more females than males (29.4% vs 17.5%) responded in this way. In contrast, only half as many females as males (11.6% vs 22.4%) reported that competition is *very important*. Over twice as many males as females (30.2% vs 13.2%) reported that weight control is *not important*, and twice as many females as males (26.1% vs 11.4%) reported that weight control was a *very important* factor in selecting sports activities. In addition, few students (20.4%) reportedly use physical activity for stress relief and relaxation.

Student respondents were asked to indicate the sports in which they might participate upon leaving high school. The results have been tabulated in Table 4.6 below, and indicate that more than 80% of the students are most likely to become involved in swimming, skiing, and cycling after leaving high school, with weight training, canoeing/rowing, skating, tennis, badminton and curling being popular choices as well.

TABLE 4.6

FUTURE PARTICIPATION IN SPORTS ACTIVITIES (Grade 11)

MOST LIKELY	Percentage of Males	Percentage of Females	Percentage Total
Swimming	80.1	93.7	86.4
Skiing	82.3	83.5	82.6
Cycling	80.3	85.1	82.5
Weight Training	80.9	65.7	74.0
Canoeing/rowing	69.8	73.6	71.6
Skating	72.3	69.3	71.1
Tennis	67.0	71.6	68.9
Badminton	66.2	70.0	67.8
LEAST LIKELY	**Percentage of Males**	**Percentage of Females**	**Percentage Total**
Curling	60.4	71.6	65.4
Aerobics	82.8	20.1	54.0
Archery	39.3	65.3	51.5
Racquetball	48.5	53.5	51.0
Bowling	45.2	41.6	43.6
Golf	30.2	58.7	43.3
Martial Arts	42.4	34.3	38.8
Social Dance	45.2	19.8	33.4

The least likely sports for students to become involved in during later years are curling, aerobics, and archery, although there were significant gender differences shown in some of these areas. Curling was generally judged as unpopular by both males and females, but lack of interest in aerobics followed distinct gender lines, with a notable 82.8% of the males and only 20% of the females indicating that they would *not likely* get involved. Archery, although not selected for future participation by a large number overall, was selected as *least likely* by almost twice as many females as males.

More than half of the students reported that they rarely or never participate in intramural sports activities, and the participation varied greatly between males and females[22]. More than twice as many males as females (27.1% vs 12.9%) reported participating *often* in intramurals, and a similar proportion of males and females (32.7% vs 19.8%) reported participating only *sometimes*. Approximately the same level of participation overall was reported regarding inter-school athletic involvement, although there was very little difference between the participation of males and females.

Students reported being very involved in a number of pursuits outside of class time. Physical activities make up almost half of these pursuits, and are participated in by almost 85% of the respondents. Studies, errands and club activities also appear to make up a large portion of the non-class time. The main reasons cited for non-participation in physical activities are lack of time (57.2%) and part-time jobs (48.2%). Fewer than 10% of the students reported that lack of interest and lack of availability are factors which account for their non-participation in physical activities.

4.2.2.5 Safety

A significant 85% of the respondents at this level indicated that they have received instruction on correct safety practices for use during physical education activities. In addition, over three-quarters of the group indicated that they have received training in both the setting-up and use, and in the taking-down and storage of equipment. Almost half the group, however, reported never having received formal instruction in a variety of survival skills and techniques, such as the dangers of hypothermia, and heatstroke. Slightly more than half have received formal training in the use of the compass. A good deal more (nearly 70%) have received training in water safety techniques, much of which has been received outside of school.

Almost three times as many females as males (28.4% vs 11.9%) reported that they felt 'stressed out' *often*, and about 20% more females than males (35.3% vs 27.7%) reported feeling 'stressed out' *sometimes*. More male than female respondents claimed that they do not experience stress (21.9% to 8.9%).

Nevertheless, a total of over 62% of both males and females reported *often* or *sometimes* using physical activity in order to relax or overcome stress.

4.2.2.6 Social Interaction

Although, overall, the majority (87.5%) of students reported that they do work co-operatively with others, 20% more females than males reported that they are more likely than males to be 'often' involved in co-operative activities.

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[22] It should be noted that many reasons preclude students from participating in such physical activity programs (e.g., part-time jobs, open campus policy, time-tabling conflicts, etc).

There were no gender differences on the question of competition in physical activity, but students at this age level were involved in activities for the purpose of competing with others somewhat more often than for the purpose of self-improvement. Ninety-five percent (95%) of the students, representing 95% of the males, and 94.1% of the females, reported that they 'often' or 'sometimes' compete against others, while 84% of the group reported being regularly involved in challenges for self-improvement.

Nearly 75% of the students have been involved in training programs for the organization of games, for individual strategies, and to learn offensive and defensive principles of play. Officiating is seen as an activity in which students are given the opportunity to apply rules of sports and etiquette, and to practice leadership skills. Over half of the respondents (59.5%, made up of slightly more females), reported that they have *rarely* or *never* officiated at a game.

Although nearly three-quarters of the students indicated that they have received instruction in the modification of game rules/regulations, only 37% reported feeling 'very confident' playing games under such modified conditions.

4.2.2.7 Summary of Affective Test Results

Students at the grade 11 level reported having had formal instruction out of school in many sports which they enjoy, the most prominent being swimming, skating and cycling. Although males reported being more involved with intra-mural and organized sports than females, the latter indicated more likelihood of playing sports according to established rules and procedures for fair play. After leaving high school, students are most likely to get involved in swimming, skiing and cycling, and least likely to take up curling. While students show keen interest in pursuing outdoor activities, a large percentage of them have not had formal instruction in the dangers of hypothermia and heatstroke.

Most students reported being involved in physical activity for a good portion of their spare time. Approximately two-thirds of the students reported being involved in physical activity for the purpose of relaxation. The main reasons reported for being unable to participate in activities outside of school are part-time jobs and lack of time. Some of the primary reasons why grade 11 students participate in physical activities are fun or excitement, health or fitness, personal achievement, to feel better, skill development and socialization. Competition is not considered a strong motive for participation.

Although both males and females reported that they might find it useful to be involved in observation of others in active sports, very few indicated that they have the opportunity to do so. Some students have had the chance to be spectators of professional dancers or athletes at performances and games.

Music was reportedly used most frequently during dance activities, but it was used fairly often for running activities and work-outs.

A number of students were unsure about their fitness levels, and the results further indicated that students at this level do not make sufficient use of fitness test results to plan activity programs for themselves.

4.3 Teacher Survey Results

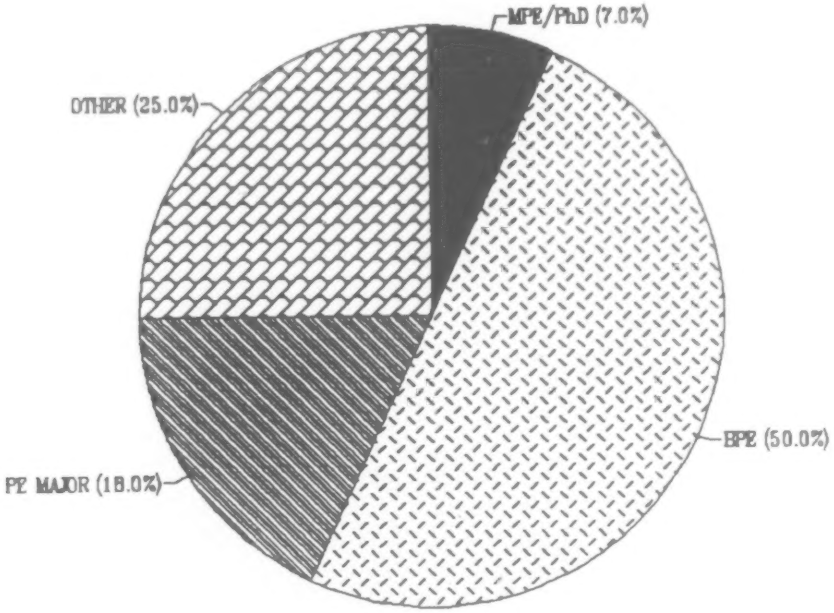
The teacher questionnaire which was completed by 45 randomly-selected teachers of Physical Education formed part of the Grade 11 Physical Education Assessment. Information was gathered on professional training and activities, materials and resources, instructional activities and facilities, and organizational arrangements. It must be kept in mind that the total number of respondents providing written comments was much lower than the total number responding to the ''check-off'' answer items.

4.3.1 Professional Development

The majority of teachers (75%) appear to have appropriate qualifications for teaching Physical Education. Half of the sample have a BPE or equivalent, while others have taken related courses in their University program. (See Table 4.7 below)

TABLE 4.7

TRAINING BACKGROUND - GRADE 11 PHYSICAL EDUCATION TEACHERS



The college/university or certification courses which respondents reportedly have taken in the area of Physical Education were varied. Table 4.8 below lists the courses taken from highest to lowest participation rate.

TABLE 4.8

PRE-SERVICE TEACHER TRAINING COURSES IN PHYSICAL EDUCATION (Grade 11)

Topic	% Participation
First Aid	89%
CPR Training	87%
Sports skills	87%
Dance/movement	82%
Games	78%
Health	75%
Exercise physiology	69%
Growth and motor development	67%
Motor learning	64%
Nutrition	62%
Adapted physical education	60%

The responses indicated that nearly 90% of the respondents have taken a St. John Ambulance training program, a Red Cross First Aid course, or a CPR Certification program, although half of the teachers currently hold valid certificates in these areas.

Respondents were asked to list the professional development areas in which they had participated on an in-service basis, and then to indicate the three areas in which they would like to participate in the future. Nearly half of the teachers expressed interest in workshops on the topic of Innovative Physical Education Teaching Strategies. Training in the area of Special Needs was requested by 31%, and although 58% of the teachers indicated that they have already received training in Student Leadership training, 31% indicated that they would like to be involved in such training in the future. Table 4.9 (on page 79) presents a breakdown of the results. In addition to pre-service training, the teachers reported varied backgrounds of inservice training in specialty areas within Physical Education.

TABLE 4.9

INSERVICE WORKSHOP PARTICIPATION
GRADE 11 PHYSICAL EDUCATION TEACHERS

Area	Wish to Participate	Have Participated
Innovative Phys. Ed. Teaching Strategies	49%	38%
Special Needs	31%	24%
Student Leadership	31%	58%
Quality Daily Physical Education	29%	53%
Student Evaluation	22%	33%
Physical Fitness	22%	62%
Sport Specific Skills	20%	67%
PE in affective domain	11%	18%
Dance	11%	42%
Basic Movement Skills	9%	20%

As with the other grade level groups, the Special Area Groups (SAG) which offer workshops in all the major specialty areas is the most widely-reported source of professional development activities, providing 91% of the respondents with inservicing within the last three years. Although these workshops are by far the most widely-attended source of professional development activities, it must be kept in mind that this is only a once-yearly occurrence. The second most popular source, indicated by 78% of teachers, are school-division-sponsored workshops relating to Physical Education. Coaching certification courses (NCCP) were reported by 51% of the respondents as a source of PD as well.

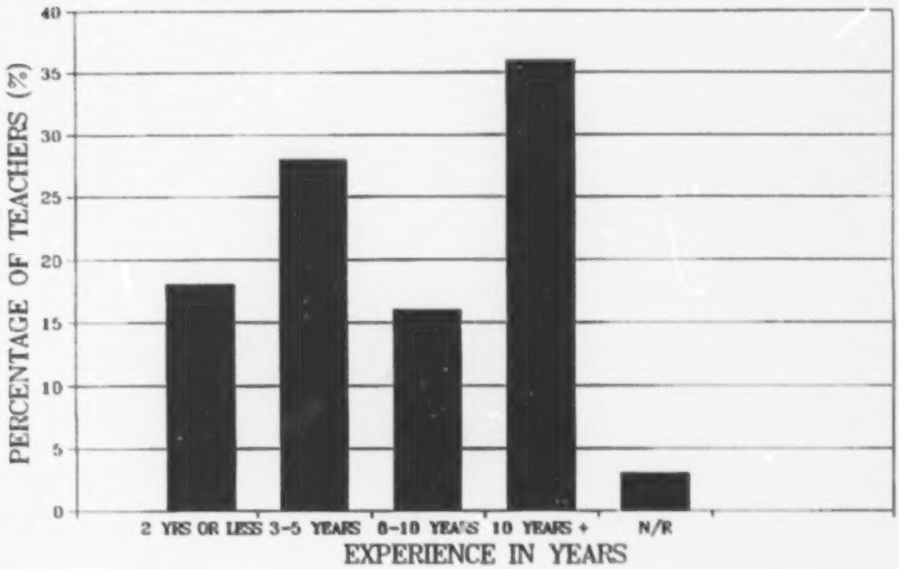
The teachers indicated participation in other professional development activities like reading professional journals (62%). Teachers of Physical Education at the grade 11 level belong to a number of professional affiliations. The most widely subscribed membership (67%) was the MPETA (Manitoba Physical Education Teachers Association). CAHPER (Canadian Association of Health, Physical Education and Recreation) memberships followed at 22%, and CIRA (Canadian International Recreation Association) at 13%, along with 'other' Provincial and national sports organizations.

Experience

The teaching experience reported by the teachers in the sample indicated quite uneven distribution. Those with more than ten years' experience constituted 36%, those with 6-10 years 16%, those with 3-5 years 27%, and those with two years or less comprised 18% of the sample. (See Table 4.10 below).

TABLE 4.10

YEARS OF TEACHING EXPERIENCE (Grade 11)



Thirty-six percent (36%) of the respondents from the Grade 11 group reported that they have teaching experience at the grades K-4 level, and 71% at the grades 5-8 level.

4.3.2 Teaching conditions

More than three-quarters (78%) of the grade 11 teachers responding to the questionnaire reported that they spend 50% or more of their time teaching Physical Education. Only 9% are involved in Physical Education less than 25% of their time. Almost all (98%) of the teachers at this level reported teaching Physical Education in one school, and 56% of them reported having classroom responsibilities other than Physical Education.

Thirty-three percent (33%) of the respondents reported teaching Physical Education to two different classes of grade 11 students, and 20% to only one class at this grade level. Eighteen percent (18%) of the respondents indicated that they teach 4 different classes of grade 11 students, and 9% teach 3 classes. A small percentage (3% or less) indicated that they teach between 5 and 8 different classes of grade 11 students.

Respondents were asked to indicate some specific information about the schools to which they were assigned [23]. Over half (53%) of the schools represented in the teacher questionnaire are reportedly on a semester schedule; forty-two percent (42%) of them are on a whole-year schedule. Physical Education classes are organized somewhat differently. Although all represented schools on whole-year systems organize their Physical Education programs on whole-year schedules, schools on semestered systems varied. Approximately two-thirds of them organized their Physical Education programs on a semester schedule, and the remainder on a combined whole-year/semester basis. Seventy-six percent (76%) of the represented schools are on a 6-day cycle, and 13% are on a 5-day cycle.

The data indicated that there is considerable variation in the average size of instructional groups at this grade level, with 38 students being the largest and the smallest being 21 students. Of the teachers responding, a significant 85% reported that all of their classes are co-ed in nature, and only 4% reported that none of them are. Eleven percent (11%) reported that some of their classes are co-educational groups.

Facilities and Equipment – availability and use

Respondents at the grade 11 level reported making extensive use of community facilities. Golf courses are the most utilized of the off-site facilities, reportedly used by 69% of the respondents. Curling rinks and bowling alleys are the next most utilized, reported respectively by 62% and 60% of the teachers. Ski trails and skating rinks are both used by more than half of the respondents, followed closely by racquet clubs and parks, which are both utilized by over 40% of the teacher respondents. The only listed off-site facilities which are not used to any great extent are roller rinks, reportedly used by a very small fraction (4%) of all those responding.

Access to facilities within schools varied considerably from one situation to another, but respondents reported making good use of the facilities available. Table 4.11 on page 82 illustrates the results.

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[23] Respondents who work in more than one school were directed to answer all questions based on the school whose name was first in alphabetical order.

TABLE 4.11

ACCESS TO/USE OF FACILITIES
(Grade 11 Physical Education Classes)

Facility	Access	Regular Use
Classroom space	71%	27%
School field	67%	76%
Gymnasium-1 teaching station	64%	82%
Gymnasium-2 teaching stations	33%	44%
Outside/school playground	64%	64%
Off-site facilities	64%	53%
Weight room	58%	62%
Multi-purpose room	36%	11%
Shared gym (2 teaching stations)	33%	44%
Stage	33%	16%
Mini-gym	7%	4%

Gymnasium space is the most accessible facility at the grade 11 level, when combining both one and two-teaching stations, available to 97% of the teacher respondents. One-station facilities are used regularly by 82% of the teacher respondents, and two-station facilities by 44% of teachers[24]. Classroom space is available to 71% of teachers, but not used as regularly as school fields. Good use is made of playgrounds, as can be seen from Table 4.11 above. Off-site facilities are also well-utilized and accessible. Weight rooms are available and well-used by over half of the schools represented in the survey, but multi-purpose rooms, although available to about one-third of the teacher respondents, do not tend to be a widely selected location for holding Physical Education activities, and are used regularly by only 11% of teachers.

Office space is available to over 90% of the respondents, and convenient showers and change areas are available to more than 80% of those responding. Telephones and water fountains are available to nearly three-quarters of the respondents. First Aid Kits are available to over 90% of the Physical Education teachers, and, although they are not mandatory, stretchers are available in 31% of the schools represented. Approximately 90% of the teachers at this grade level reported that they have adequate large and small equipment for the delivery of the grade 11 Physical Education program. Nearly one-third of them, however, indicated that they do not have adequate storage space.

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[24] Some schools may have reported no access because they have no facility in their building. They may, however, have access under shared-facility arrangements with another building.

4.3.3 Methodology

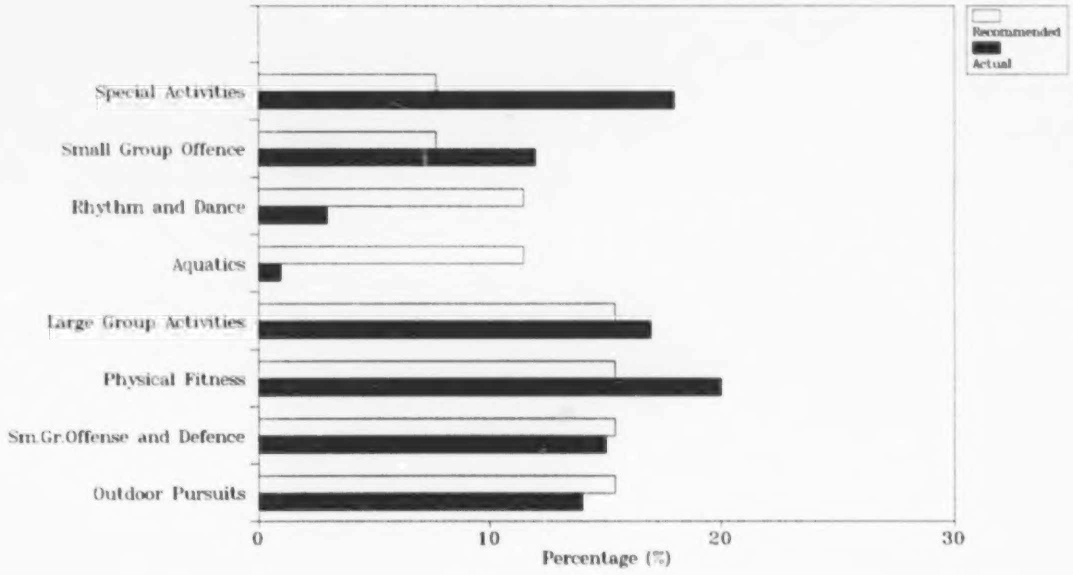
A total of 93% of the respondents reported having a copy of the *1981 Manitoba Physical Education Curriculum Guide (K-12)*, and 76% reported using it at least to some extent. Sixteen percent (16%) of the respondents reported that they base their program on the guide and 60% refer to the guide as a resource only. Twenty percent (20%) reported that they do not use the guide at all.

The various aspects of the curriculum were reportedly used to varying degrees by the respondents. Learning goals and suggested activities were the most widely-used aspects, at 76% and 74% respectively. The use of objectives was reported by 73% of the respondents, with support materials and sub-objectives being used by 71% and 67% respectively.

Respondents were asked to indicate the degree of emphasis placed on different topics in the curriculum. The actual emphasis given to each topic has been illustrated in Table 4.12 below, together with the recommended emphasis. It should be noted that a great deal of variation in emphasis was reported among the respondents.

TABLE 4.12

ACTUAL AND RECOMMENDED CURRICULUM EMPHASIS - GRADE 11



As indicated in Table 4.12 above, the time in the average Physical Education program at the grade 11 level is shared by basically six areas. Fitness is the most strongly emphasized area of the Physical Education curriculum, taking up, on average, one-fifth of the reported time. Individualized special activities and large group activities follow at 18% and 17% respectively. Rhythm and Dance makes up a very small portion of most programs, and Aquatics is not emphasized to any extent.

Reasons for the de-emphasis of different parts of the curriculum varied among respondents. Table 4.13 below lists the areas of de-emphasis with the reasons for this and the actual number of teachers articulating these reasons. The single most often-cited reason was lack of facilities, reported by 22 of the respondents. This affected significantly the delivery of the Aquatics program. Lack of training was seen as a limiting factor by only 10 of the respondents, and this was most evident in the area of Rhythm and Dance. Programming considerations such as overlap with other curricula or lack of interest in the subject, caused problems for 16 of the teachers, and again, was most evident in the Rhythm and Dance options.

Logistical aspects such as timetabling and length of period were viewed as a problem in 10 of the cases, and appeared to affect Outdoor Pursuits and Aquatics more than any other areas. Philosophical or religious prohibitions accounted for some program de-emphasis in Rhythm and Dance, and to a very small extent, Outdoor Pursuits. This particular reason was not reported to have had a negative effect on any other Physical Education area.

TABLE 4.13

REASONS FOR CURRICULUM DE-EMPHASIS (Grade 11)

Reason	Rhythm & Dance	Spec. Ind.Act.	Physical Fitness	Aquatics	Outdoor Pursuits	Lg. Grp.	Sm.Gr. Off/Def	Sm. Grp Off.	Total
Lack of training:	9	0	0	1	0	0	0	0	**10**
Lack of equipment:	0	0	0	0	1	1	3	1	**6**
Lack of facilities:	0	0	18	4	0	0	0	0	**22**
Lack of funds:	0	0	2	0	0	0	0	0	**2**
Program consid:	8	2	2	1	1	1	1	1	**11**
Phil/rel prohibitions:	3	0	0	1	0	0	0	0	**4**
Legal consid:	0	0	0	0	0	0	0	0	**0**

NOTE: **Due to the small numbers of teachers responding to these written comments, responses in this table are shown in absolute numbers.**

Just over three-quarters of the respondents devote 20% or less of their class time to theory. The remainder reportedly spend between 21% and 40% of their time on theory. None of the respondents who answered this item reportedly devote more than 40% of their time to the teaching of theory. Student Leadership is offered for credit as a School-Initiated Program in 56% of the cases reported, and Outdoor Education was reported by 22% of the respondents. Sixteen percent (16%) offer other unspecified courses as School Initiated Programs which can be taken for credit at this level. In addition, 67% of the teacher respondents at the grade 11 level reported that their students have the opportunity to select the activity units in the Physical Education program. Nearly three-quarters of the group (73%) identified that they are teaching single-grade classes. Forty percent (40%) of the sample reported that they teach in a multigrade situation, and team teaching is practiced by 40% of those who responded.

Curriculum Delivery

A total of 78% of the respondents at this level reported that they integrate concepts from other curricular areas in their teaching of Physical Education. Table 4.14 below illustrates the curriculum areas most frequently integrated into Physical Education teaching at the grade 11 level. A separate item asked respondents to indicate to what extent they integrate Health with Physical Education [25]. These figures are included in the table as well.

TABLE 4.14

CURRICULUM INTEGRATION OF OTHER SUBJECTS INTO PHYSICAL EDUCATION (Grade 11)

Curriculum Area	Percentage of Frequency	Degree of Integration
Health	64%	20% - great extent 32% - moderate extent 12% - limited extent
Outdoor Education	42%	
Science	31%	
Mathematics	27%	
Music	24%	
Language Arts	13%	
Art	11%	
Languages	7%	
Social Studies	4%	
Computer Science	0%	

A little over half (53%) of the respondents reported teaching Physical Education to students with disabilities. Of the respondents who indicated that they teach such students, all indicated that these students are integrated into regular classes. Problems encountered in teaching the Physical Education program to students with special needs/disabilities were varied. Equipment is evidently a problem for 54% of the teachers. More than half of the teachers working with special needs/disabled students also have difficulties in the area of programming ideas or specifications. Evaluation/assessment and facilities each proved to be a problem for 38% of teachers of special needs/disabled students. In addition, one-quarter of the teachers in this group encounter difficulties with personnel support in the form of aides or paraprofessionals.

The results from this survey indicated that, of the respondents who teach students with special needs/disabilities at the grade 11 level, approximately 75% participated in the development of Individual Education Programs, although for some teachers it is to a limited extent.

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[25] The Health program referred to in this chapter is not to be confused with the new High School (Sr2) Health curriculum.

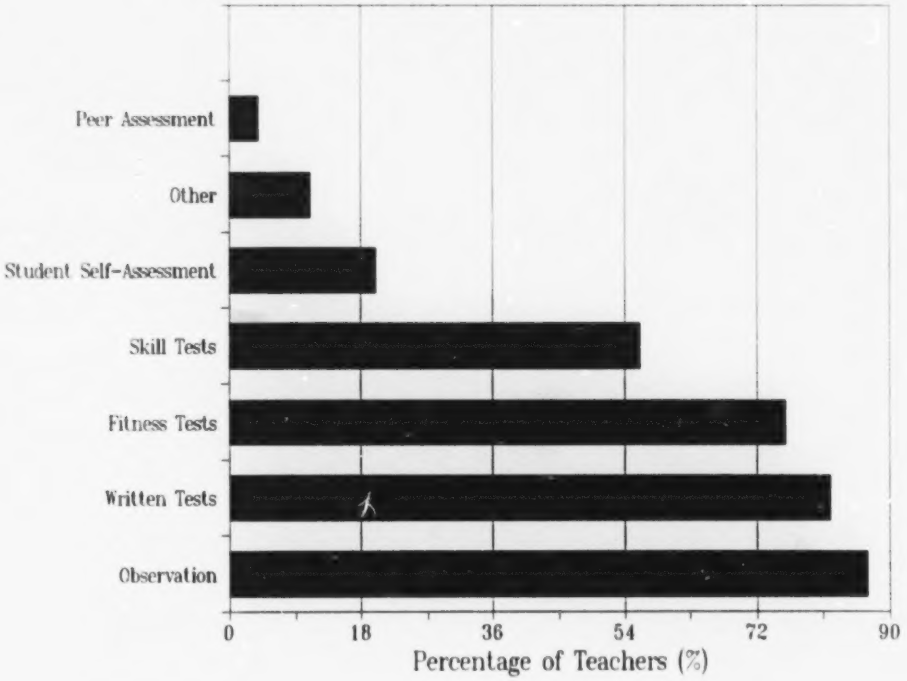
Evaluation and Assessment

The greatest emphases in the area of student assessment at the grade 11 level appeared to be in the area of attitude. Both behavior/participation/effort and attendance were reportedly emphasized *to a great extent* by 80% of the respondents. Behavior/participation/effort was reportedly emphasized to a *moderate extent* by 18%, and attendance by 13% of the respondents. Although physical fitness was reported to be emphasized *to a great extent* by only 13%, it is focussed on to a *moderate extent* by 69%, making it roughly equal in emphasis to knowledge and understanding of concepts at 11% and 71% respectively. The least emphasized focus area for student assessment at this grade level is in psychomotor or skill development. A total of only 9% of the respondents indicated that they emphasize this area *to a great extent*.

Types of assessment used for student evaluation in the grade 11 program varied somewhat, although the great majority of the teachers responding at this level reported using either teacher observation (87%) or written tests on theory (82%). (See Table 4.15 below).

TABLE 4.15

GRADE 11 ASSESSMENT METHODS



Fitness tests were used by more than three-quarters (76%) of the respondents at this level to assess student achievement, and skill tests were used by over half of them (56%). Peer assessment did not appear to be popular as a method of evaluation in grade 11 Physical Education, since only 4% of the respondents selected this option.

Reporting to parents on student progress is done in a wide variety of ways at the grade 11 level. The most popular reporting method at this level tends to be the percentage mark, reportedly used by 69% of the respondents. Letter grades and written anecdotal reports also constitute a good proportion of the reporting methods used. These were reported by 49% and 44% respectively. Verbal anecdotal reports were reported by only 22% of the teachers responding, and it was indicated that this generally referred to telephone contact. Skills check lists were reportedly used by only 4% of the teachers in this survey.

Liability Concerns

Thirty-six percent (36%) of the teachers responding to the grade 11 survey reported that there are facilities or equipment that they fail to use because of safety/liability concerns. By far the most widely reported equipment left unused due to safety/liability considerations are those normally associated with gymnastics. About half of those in this category listed the high beam as their biggest safety/liability concern. Trampolines are the next problem spot, reported by just over 30% of the respondents.

4.3.4 Co-curricular Activities

Responses indicated that the co-curricular activities which are most available to students during the school year are inter-scholastic sports (93%) for boys and girls.

Co-ed Intra-mural sports follow closely in participation at 84%. Intra-mural sports for males at 78% is slightly more popular than Intra-mural sports for females at 73%. Sports clubs follow at 62% participation and 42% reported enlistment in co-ed inter-scholastic sports activities. Just over half of the respondents (51%) indicated that student leadership programs are available to students in their schools.

4.4 Highlights of Grade 11 Results

In general, the assessment results indicated that:

- Teachers are spending a fair amount of time on fitness, and students are involved to a considerable extent in physical activity outside of school. However, student fitness levels do not reflect such intense involvement. Based on the *Manitoba Schools Fitness Criteria* (1989), males show generally acceptable performance in fitness, but females do not. The one notably weak area for males is abdominal muscular endurance and the notably strong area for females is in lower back and hamstring flexibility.

- Students demonstrate reasonable knowledge of various components of fitness and an understanding of the application of theories, activity, nutrition and weight management. Students show good understanding of the principles of motor learning and skill progressions.

- There is weakness in the area of fitness chart reading, interpretation and application. Students reported that they are not given much opportunity to use test results to plan their own fitness programs.

- A large number of students are reportedly involved in activities outside the school setting and have maximized the opportunities to gain both formal and informal instruction in activities which can be enjoyed throughout life. They are able to name facilities where they could participate in or seek information on physical activities in the community. Students select activities for the purpose of fun, skill development and health, and they demonstrate a willingness to continue participation in physical activities beyond high school graduation. This is most encouraging for a school program that emphasizes life-long participation.

- Students demonstrate awareness of concepts of fair play and sportsmanship.

- Approximately one-third of the students have not had instruction in safety and survival skills.

- Students are reportedly given limited opportunities for self-expression and program choices during Physical Education classes.

- Some areas of the curriculum have not received the recommended emphasis (eg. Aquatics, Rhythm and Dance). The most frequently stated reasons are lack of facilities and lack of training.

- Over one-half of the respondents teach students with special needs/disabilities, and 75% are involved in developing Individual Education Programs for them, if even to a limited extent. Many teachers who teach students with special needs/disabilities indicated that they have difficulties acquiring assistance such as paraprofessional help and teaching techniques.

- The greatest emphasis in the area of student assessment appears to be on behavior, participation and effort.

- Physical Education facilities in schools are generally accessible and adequate but there is noted deficiency in storage space. Teachers utilize community facilities well in the Physical Education programs.

- Almost all Physical Education classes at this level are co-educational.

- Teachers use various opportunities for upgrading or inservicing, but SAG appears to be the primary source. There could be a loss of approximately 90% of the opportunities if SAG is discontinued. Teachers have received inservicing in a variety of areas, but additional inservicing is required, in the areas of QDPE, adaptation for special needs/disabled students, innovative teaching strategies, student leadership and student evaluation.

- A high proportion of Physical Education teachers at the grade 11 level appears to have the necessary qualifications to teach Physical Education at the Senior 2 level.

- Three-quarters of the teachers who teach Physical Education appear to have the professional credentials for teaching in their subject areas.

- Almost all Physical Education teachers have training in First Aid and CPR but many have not kept their certificates valid.

4.5 Conclusions and Recommendations—Grade 11

The Technical Advisory Committee for the Grade 11 Physical Education Assessment makes the following recommendations based on the results obtained from the student performance test, the student written test, and the teacher questionnaire. The letter(s) which appear(s) immediately after each recommendation indicate(s) the primary responsibility for that recommendation since there could be overlapping responsibilities. In each case responsibility is directed to one or more of the following:

Manitoba Education and Training	**M**
School Divisions/Schools	**S**
Teachers	**T**
Faculties of Education	**F**

While the majority (76%) of grade 11 male students appear to have met the health criteria of the *Manitoba Schools Fitness Criteria* (1989), there appears to be some weakness in the area of endurance as related to abdominal muscles. Females, on the other hand, have shown weakness in cardiovascular endurance and upper body and abdominal strength. Based on comparisons to the *Manitoba Schools Fitness Criteria* (1989), it seems that the health of some young adults could be at risk in later years. It is, therefore, recommended that:

1. **more consistent participation of students in physical fitness activities be encouraged. (T)**

2. **opportunities be monitored to have high school students participate in physical activities on a regular basis. (S, T)**

3. **appropriate inservicing for teachers be provided on Quality Daily Physical Education (QDPE) and that adequate time for QDPE delivery be given. (M,S,F)**

4. **the *Manitoba Schools Fitness Criteria* (1989) support document be used more extensively as a resource. (T, S, M, F)**

Students demonstrated strong understanding of the components of physical fitness and the various principles of exercise related to the maintenance of acceptable fitness levels. They demonstrated some weakness, however, in reading and interpreting a fitness chart. Students also indicated the lack of opportunity to use fitness test results to plan their individual physical fitness programs. Teachers indicated that they devote great emphasis to fitness testing in student assessment. It is, therefore, recommended that:

5. **students be assisted in analyzing and interpreting fitness test results and in applying that knowledge to establish their own fitness programs. (T)**

6. **fitness testing programs in schools be monitored to ensure that high school students have the opportunity to obtain their results and develop individual programs. (S)**

7. **ongoing fitness testing programs be maintained for all students. (M, S)**

Given the fact that there are definite gender differences in physical fitness and in the choice of physical activities, it is recommended, that:

8. **sufficient choice of physical activities be provided to enable all students to strengthen their fitness levels and their skill in lifetime activities. (T, S)**

Students indicated a positive attitude to physical activity both in school and in the community, and they have indicated a desire to pursue various lifetime physical activities beyond high school. There is further indication that safety and survival skills have not been widely taught in school. It is therefore recommended that:

9. **safety and survival skills receive more emphasis in Physical Education programs. (T, S, M, F)**

10. **where teaching staff lack appropriate preparation, schools and divisions assist in providing the training which is required for teachers to conduct effective programs. (T, S, M, F)**

Teachers have indicated overwhelmingly that they have training in First Aid and CPR, but many have not kept their certificates valid. To prevent lack of public confidence in teachers who must occasionally provide this service, it is recommended that:

11. **teachers be assisted and encouraged in maintaining valid certificates. (S)**

12. opportunities be maximized to maintain current certification levels. (T)

Whereas more than half of the teachers reported working with students with disabilities, and many of them cited concerns about program ideas and equipment, it is recommended that:

13. Physical Education teachers be included in the development of Individual Education Programs (IEP's). (S)

14. Adapted Physical Education training be provided for all in-service and pre-service teachers which will include information on appropriate equipment use and programming ideas. (F,M,S)

A number of teachers have requested additional inservicing in various areas, and given the current tentativeness of the SAG day which has been the major source of professional development for the large majority of teachers during the last few years, it is recommended that:

15. some consideration be given to provide teachers with appropriate inservicing. (M,S,F)

Students indicated that they do not have the opportunity to provide input into the Physical Education Program and into their individual programs. They indicated that there are several barriers (work, timetabling conflict, etc.) which restrict their participation in physical activities. This situation requires efficient organization of program and time. It is, therefore, recommended that:

16. students be given the opportunity to arrange their Physical Education programs with the most effective activities to maximize available time. (T, S)

Whereas teachers in Physical Education programs need on-going support, it is recommended that:

17. full-time Physical Education consultants be maintained or hired to provide support to teachers in the following areas:

- **support materials;**
- **workshops;**
- **continuity and direction in curriculum;**
- **review of several aspects of the curriculum; and**
- **training for teachers who are required to teach Physical Education without adequate preparation. (M,S)**

Whereas there is de-emphasis in some curriculum areas for a number of compelling reasons, including, among others, lack of facilities, lack of training, and program considerations, it is recommended that:

18. **school-based aquatics programs be reviewed for feasibility. (M,S)**

19. **ongoing maintenance and replacement of equipment is monitored. (S)**

20. **the areas of rhythm and dance and gymnastics be given priority for professional development. (S,F)**

Given the fact that the majority of teachers evaluate their students mostly on behavior, participation and effort, and student evaluation has been identified by teachers as an area of great need for professional development, it is recommended that:

21. **Faculties of Education review their teacher preparation programs to ensure adequate treatment of student assessment and evaluation. (F)**

22. **ongoing inservicing be provided for teachers to enhance their assessment and evaluation practices. (M,S)**

APPENDIX I

DETAILED PROCEDURES OF THE PHYSICAL EDUCATION ASSESSMENT

The procedures used in the Physical Education Assessment were similar to those used in other subject assessments. However, there were some variations due to the inclusion of a Performance Test component. The following is a description of the steps involved in the assessment:

Step 1: Identification of objectives

In the 1991-92 school year a survey was sent to a random sample of Physical Education teachers at each of grades 4, 8 and 11. They were presented with a list of their respective course objectives and a rating scale to indicate the degree of emphasis that they place on each objective in their instruction. The information gathered through the survey guided the test development team in the test design. Since the main purpose of the assessment is to ascertain the strengths and weaknesses and degree of implementation of the curriculum, it was necessary to determine which areas of the curriculum are given higher priority for the weighting of items.

The objectives that had an average rating of 4 (high emphasis) or 3 (moderate emphasis) were given first consideration in the formulation of items. The objectives that had lower ratings were discussed with respect to the weighting of items within a particular subtest or goal area. Having finalized the list of objectives to be tested, the Technical Advisory Committee (TAC) determined those to be tested in the cognitive, affective and psychomotor domains and established the Table of Specifications for the test.

Step 2: Test Sample

The provincial sample for the Manitoba Assessment Program is drawn from public and government funded private schools. Students identified for the grades 4, 8 and 11 Physical Education assessment were taken from three distinct populations, namely, English language schools, Franco-Manitoban schools and the French Immersion Program. The sample for the Written test at each of the three grade levels consisted of a 10% random selection of students in English language schools, 25% of students in the French Immersion Program and all students in Franco-Manitoban schools. In the case of grade 11 the sample selection was restricted to students who were completing part or all of their Physical Education credit in June 1993. The figures below show the projected sample and the number of students who actually returned a completed test booklet for each of the three grade levels and client groups.

	English Language Schools		Franco-Manitoban Schools		French Immersion Program	
	Projected	Actual	Projected	Actual	Projected	Actual
Grade 4	1255	1158	423	408	471	433
Grade 8	1284	1154	407	385	230	211
Grade 11	833	668	177	148	54	50

The Performance Test sample consisted of a sub-sample of the Written Test sample. It consisted of the Written test sample from 10% of English language schools, 25% of the Written test sample in the French Immersion Program and one-quarter of the Written test sample from 25% of Franco-Manitoban schools. The reduced sample for the Performance test was due to the limitations of cost. The actual number of students tested were:

	English Language Schools		Franco-Manitoban Schools		French Immersion Program	
	Projected	Actual	Projected	Actual	Projected	Actual
Grade 4	209	204	39	37	118	115
Grade 8	248	226	34	32	87	77
Grade 11	121	95	18	18	26	24

Step 3 : Test Development

Both the Written and Performance tests at the three grade levels (4, 8 & 11) were developed collaboratively by the English and French contractors with the assistance of the respective TAC. The tests for the English language schools and the French language programs were the same since both curricula were parallel at each of the three grade levels. The Technical Advisory Committee at each grade level assisted in the establishment of the Table of Specifications for the test and reviewed all test items before and after they were pilot tested.

In the case of the Performance tests it was necessary to pilot test the scripts for appropriate vocabulary and directions, length of time for each task, observation and recording techniques, sequencing of activities and physical set-up within limited space.

In Performance testing it is extremely important for every tester to use the same script, to have students perform activities in the same sequence, to evaluate student performance on established criteria and to allow the same amount of time for the test even though the physical facility varies from one school setting to another.

Step 4 : Pilot Testing

Written Test:

The Written tests were pilot tested in January 1993 coinciding with the end of the First Semester to a combined population of English language schools, Franco-Manitoban schools and French Immersion at each of the three grade levels. The grade 4 test was administered to 172 grade 5 students, 112 in English language schools and 60 in French language programs. The grade 8 test was administered to 209 grade 9 students, 172 in English language schools and 37 in French language programs. The grade 11 test was administered to 242 students who were completing their grade 11 Physical Education credit in the First Semester, 175 in English language schools and 67 in French language programs. The decision to engage students in grades 5 and 9 for the pilot testing was guided by the fact that they would be a good sample for content covered in the previous grade. The students in the current grades 4 and 8 classes would not have been exposed to the greater parts of their respective curricula to provide useful results.

Performance Test:

The Performance tests were administered to a sub-sample of the Written test sample at each of the three grade levels. This was done by the members of the Technical Advisory Committees at their schools. The focus of the pilot test was to monitor the amount of time it took to complete all the activities, test out the appropriateness of the script, note logistical difficulties and experiment with physical lay-out and sequence of activities.

The Performance test sample consisted of a sub-sample of the Written test sample at each of grade 4, 8 and 11 levels. The grade 4 test was administered to 56 grade 5 students, 32 in English language schools and 24 in French language programs. The grade 8 test was administered to 60 grade 9 students, 44 in the English language schools and 16 in the French language programs. The grade 11 test was administered to 84 students, 60 in English language schools and 24 in the French language programs.

Step 5 : Test Administration

Written Test:

Schools were asked to administer the Written tests. Those schools or divisions that opted to have all their students tested conducted the testing at the same time that the provincial assessment was being conducted. A *Teacher's Manual and Scoring Key* was provided for each teacher administering the test. For the most part students recorded their answers on NCS Answer sheets. Answers to the open-ended questions were written in the test booklets and these were marked and coded onto the NCS Answer sheets by Manitoba Education and Training for the provincial sample only. The schools and divisions that tested beyond the provincial sample marked and coded their answers before sending them to Manitoba Education and Training for analysis.

The local decision to test beyond the provincial sample provided teachers, schools and divisions the opportunity to analyze their own results with the provincial findings. The following chart shows the proportion of schools by language and grade that requested test booklets to administer to their entire population together with the percentage of the entire student population that wrote the test at each grade level:

	English Language Schools		French Immersion Program	
Grade Level	Percentage of Schools	Percentage of Students	Percentage of Schools	Percentage of Students
Grade 4	5.3%	14.7%	13.6%	18.7%
Grade 8	4.7	10.5	33.3	10.8
Grade 11	4.7	5.2	25.0	45.8

Performance Test:

A team of testers at each grade level was trained specially to administer the Performance test. Following the training the testers were allowed the opportunity to practice with students in their schools who were not listed in the provincial sample. This enabled the testers to develop their own 'set-up' routine so as to use time efficiently.

Schools were asked to provide some basic equipment that were bulky for the testers to carry around. Testers assembled their testing kits with the remaining equipment. Testers were provided with a schedule together with the list of students to be tested at each of their schools and the individual score sheets for each of these students.

The 1600 m Run which was administered at each of the three grade levels was sent to the sample schools in advance so the Physical Education teachers would have been able to administer the test to provide each tester with the results of this test on the date when the rest of the Performance test was scheduled to be completed.

Step 6 : Teacher Survey

The sample for the teacher surveys at grades 4, 8 and 11 consisted of a 30% random selection of Physical Education teachers in English language schools and a complete survey of Physical Education teachers in Franco-Manitoban schools and the French Immersion Program. The chart below shows the number teacher questionnaires that were sent and returned.

	English Language Schools		Franco-Manitoban Schools		French Immersion Program	
	No. Sent	% Returned	No. Sent	% Returned	No. Sent	% Returned
Grade 4	179	79.9	64	85.9	15	86.7
Grade 8	154	85.1	24	45.8	15	100
Grade 11	49	91.8	16	25	7	71.4

Step 7: Interpretation and Reporting of Results

A *Preliminary Report* for each grade and client group consisting of the test results only was presented earlier. It was distributed to schools, school division offices, teacher and trustee organizations, libraries and universities. This report provided scores for each item and subtest on the Written test with frequency distributions for the cognitive results of each subtest. The results on the Performance test showed the average scores for each test population by gender on the Fitness activities and the percent of males and females showing Mature or Formative skills on other activities. Teachers, schools and divisions were advised to be cautious in using the results to evaluate individual student achievement. They were to be even more careful with the Performance test results due to the small numbers of students that were tested.

This *Final Report* presents an analysis of the test results together with the teacher survey. It contains the major findings plus the conclusions and recommendations made by the TAC. As with the *Preliminary Report*, a separate report is prepared for each of the three client groups. The *Final Report* is sent to school division offices, teacher and trustee organizations, libraries and universities.

APPENDIX II

MEMBERS OF TECHNICAL ADVISORY COMMITTEE – GRADE 4

Arlene Baillie	Pine Creek School Division #30
Janet Campbell	Winnipeg School Division #1
Jacques Dorge	St. Boniface School Division #4
David Fitzpatrick	University of Winnipeg
Claude Molgat	Transcona-Springfield School Division #12
Heather Willoughby	Assiniboine South School Division #3
Frank Wynes	Fort Garry School Division #5

Contractors

Bernard Desgagné	Contractor (French) Fort Garry School Division #5
Linda Lee	Contractor (English)

From Manitoba Education and Training

Dick La Page (to July, 1993)	Physical Education Consultant Curriculum Services Branch
Joyce MacMartin (from September, 1993)	Physical Education Representative Curriculum Services Branch
Harri Maharaj	Consultant Assessment and Evaluation Unit
Paul Paquin	Physical Education Consultant Bureau de l'éducation française

MEMBERS OF TECHNICAL ADVISORY COMMITTEE – GRADE 8

Beverly Baggley	St. Vital School Division #6
Roger Charriere	Seine River School Division #14
Carol German	Assiniboine South School Division #3
Ron Hildebrand	Winnipeg School Division #1
Al Kozak	Winnipeg School Division #1
Kristine White	Dauphin-Ocre Area #1 School Division #33
Ida Yachison	Seine River School Division #14

Contractors

Linda Lee	Contractor (English)
Bernard Desgagné	Contractor (French) Fort Garry School Division #5

From Manitoba Education and Training

Dick La Page (to July, 1993)	Physical Education Consultant Curriculum Services Branch
Joyce MacMartin (from September, 1993)	Physical Education Representative Curriculum Services Branch
Harri Maharaj	Consultant Assessment and Evaluation Unit
Paul Paquin	Physical Education Consultant Bureau de l'éducation française

MEMBERS OF TECHNICAL ADVISORY COMMITTEE – GRADE 11

Hubert Bérubé	St. Boniface School Division #4
Irving Hanec	Winnipeg School Division #1
Geraldine Ilchyna	St. Vital School Division #6
Jacki Nylen	Rolling River School Division #39
Lionel Piché	Transcona-Springfield School Division #12
Jan Pickell	St. James-Assiniboia School Division #2
Jane Vallentyne	River East School Division #9

Contractors

Bernard Desgagné	Contractor (French) Fort Garry School Division #5
Dr. Wenda Dickens	Contractor (English)

From Manitoba Education and Training

Dick La Page (to July, 1993)	Physical Education Consultant Curriculum Services Branch
Joyce MacMartin (from September, 1993)	Physical Education Representative Curriculum Services Branch
Harri Maharaj	Consultant Assessment and Evaluation Unit
Paul Paquin	Physical Education Consultant Bureau de l'éducation française